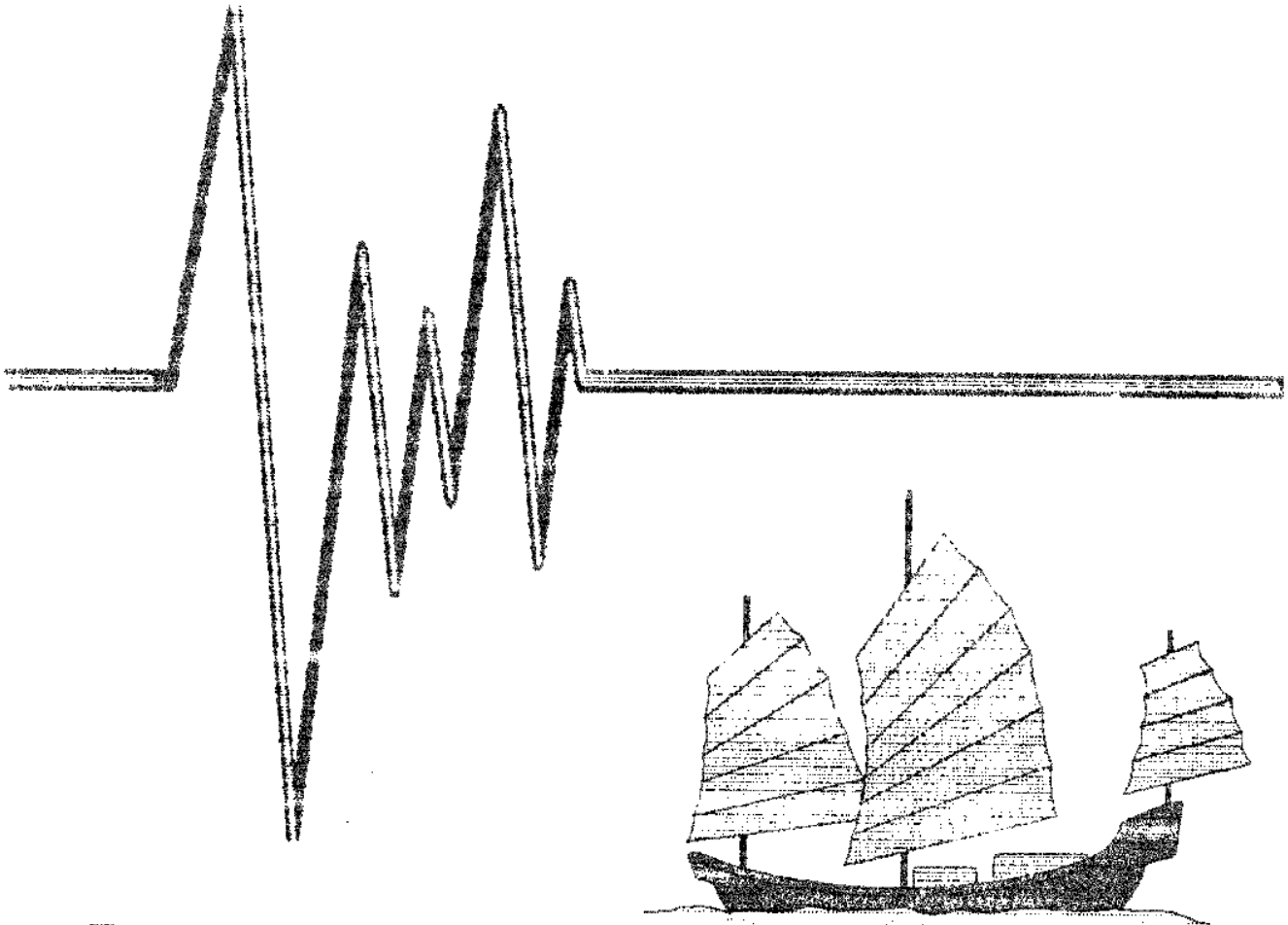
UPDATE!



SURFING THE INTERNET

$20/year $5/single issue April 1996

UPDATE! MAGAZINE
PO BOX 17
MEXICO, IN 46958 USA

UPDATE COMPUTER SYSTEMS is edited by Frank Davis and published by Carol Davis of **P.O. Box 17, Mexico, IN 46958 USA.** The phone number is **317-473-8031** for voice. **Normal hours are from 6 to 9 P.M. Tuesday thru Saturday.** Please use the answering machine if we are not available, and leave a short, concise message with both phone number and address. Most answers to questions left on the machine will be by mail, as long distance charges are too costly for a small magazine to be expected to bear. **The phone number for faxing is 317-472-0783, and the hours for faxing are 7 P.M. thru 11 A.M. every day of the week.**

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Assistance in publishing this magazine is provided by you the readers, many of whom have contributed news, articles and reviews. We offer you our heartfelt thanks. We are mainly assisted by our longtime friend, Eliad Wannum, Poet, Psychologist and Sinclair computer user. In addition, regular contributors have been: Bill Cable, Paul Holmgren, David Lassov, Al Feng, Don Lambert, Bob Swoger, Abed Kahale and Peter Hale, to name just a few. We invite you to submit material for publication to UPDATE MAGAZINE. Please make all hard copy (printed out) submissions Letter or NLQ; no draft print, or 2040 thermal print. The quality is too poor to print in a readable manner, and we do not have the time to re-type most articles. If you do not have a printer capable of this , then send the article on disk to us as: Z88, IBM, QL, TS2068 in Oliger or Larken, or in an Amiga file. We can handle these disk formats. We can use 5.25 or 3.5 disks in DSDD, HD, or ED densities. Send two copies of hard copy. Do not submit stuff on audio tape, as we no longer have any tape decks for the TS1000, or the TS2068. Try to avoid flowery or hard to read fonts, unless you are showing us sample output from a printer reviewed or a program. If artwork for an article is to be included, please let us know in what order you think it should be displayed.

Those wishing to place ads in **UPDATE MAGAZINE**: We have two ways of placing ads. ONE, we will do reciprocal ads for other publications (generally on a year for year basis) with both of us exchanging copies of the issues the ads are placed in. TWO, the other way, is to purchase ad space from us, with the following rates in effect for now: $15 per quarter page; $25 per half page; and $40 per full page ad. This is per issue. For inclusion in all four issues, you pay for three issues in advance, and get the fourth issue free. For two issues you pay full rate for one ad and get $5 off the cost of the second ad rate. Should you have any questions on this please contact Frank Davis either by phone, mail or fax, as listed above. All checks should be made out to **UPDATE MAGAZINE,** for both ads and subscriptions.

We hope to be of service to you. We do this magazine as a labor of love, not as a profit making business. Thank you for your support. All articles in UPDATE remain the intellectual property of their various authors.

Carol Davis

Frank Davis

Eliad Wannum

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The front cover for this edition was done courtesy of Abed Kahale of CATUG. Cover graphics are wanted for future issues. This is a quarterly, user supported magazine. The inside page covers subscriptions, ad and article submission to UPDATE. It also covers delivery methods and times.
We are now in our 9th year of publishing, and look forward to you as a subscriber. Send us articles and news! Perhaps you will even sign up a friend to make us even stronger. If you sign up two paid, new subscribers to UPDATE you will get your subscription at half price!

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EDITORIAL and NEWS by F.W.Davis

There is much to try to cover here, so I will try to be as short about all of it as is possible.

First of all let me tell those of you who are subscribers to IQLR what is going on there. The publisher of IQLR, Bob Dyl, recently suffered a massive heart attack. This was not his first, in fact it was his first heart attacks some years ago that caused him to close his Sinclair computer business, English Micro Connection. After a few years of rest and recovery he opened the magazine IQLR which grew to be the largest QL magazine in the world at the present time. His health had been suffering for a few months now. When he had this large heart attack, which as of the last time I spoke to him left him in need of surgery, he was not strong enough to survive the surgery. I hope that with time and some therapy he will become strong enough to do whatever is needed. He has contributed much over the years to Sinclair computer users worldwide and many owe him a debt of gratitude. Thanks Bob.

This left Bob unable to continue with IQLR. In fact his family would not have let him if he tried. The last issue was all set to go, save for a few ads. I at this time am unsure what will happen with what he had. His wife and children are trying to handle things.

Since that time I have spoken with Jochen Merz, by phone and by FAX. I was FAXed that most of the QL dealers were going to do what they could to continue the magazine. The name may change. I was asked as a QL dealer to participate in this. At the show in Boston for the QL I assume we will be discussing this and I will let you know more when I know. When I last spoke they had assembled an issue to mail out. He told me it would be mailed out to the current subscribers and a "test" copy would be sent at cost to about 4,000 known QL users also. I hope this enterprise does work. Being mailed from Europe will not be cheap. As much as you Americans seem to love to complain about your mail service and the price..... you have rates and service times that are far cheaper and faster than any in Europe. Perhaps they can find ways to lower the cost elsewhere.

I hope this issue gets to as many of you as possible before we go to the show in Boston. I also want to see as many of you there as is possible. Peter Hale, formerly of Emsoft, said to tell you that if you were flying in and needed a ride from the airport to the hotel to give him a call in advance so he would know before you arrived. I would give you his number and it is 617-889-0830. He lives about 10-15 minutes from the airport I think. If more of you show up at this show then there is a chance that they will continue, if not then kiss them good-bye!

That brings up a gripe of mine. I have had a few people complain to me that they think it is rotten that UPDATE will not continue on forever. Well gee whiz. Some wonder with the change from Mechanical Affinity to FWD Computing as to whether we will continue to support Sinclair computers. The answer on the magazine is that if we had better support from you we would have been continuing. It is as simple as that. When I hear someone who has never subscribed to UPDATE tell me how much they enjoy it and that they have photocopies of every issue . . . it can be annoying. I also do not want to have to write the majority of the magazine and over the years articles have become less and less. This is the last time I will ever bring this up in a public forum. You keep what you really support, kind of like your freedoms under your constitution, etc. If you neglect these things they get whittled away. This rule applies to all areas of life. End of subject.

Meanwhile I have seen more and more of you on the Internet or at least with email (electronic mail from your computer over the phone line). Some have asked me if I might consider an electronic version mailed out over the Internet. This would not have as much mailing cost.

There would still be some expense on my part, but it would cut it to half or more. Not all of you have access to the Internet. Perhaps you should remedy that. It is the immediate future of computing and whatever comes after it will for some time be some variation of it. I would still need input of articles and some payment to do this. It would free Carol up from the hundreds of hours she spends printing, collating, stuffing of envelopes, labels, etc (I do believe she is somewhat burned out on this). It would cost less and perhaps I could be more timely. Write or email me on this. Some have asked if I would put out a magazine on disk. Sounds good till you get to the part about having to have it in several formats (QL, Z88 in QL and PC, TS2068 in Larken..Oliger..Aerco, etc.) Then I would have to format hundreds of disks, use disk mailers and still go through the Post Office during their business hours. The neat thing about mail on the Internet is that it does not shut down and fifty letters cost me the same as one letter. Perhaps the time has really come for email. The poor old Postal Service has once again tried to figure out how they can make money on email. It will not happen, as they are too late with too little.

What would it get to have more of you send in articles for the next issue? It will be the last issue of UPDATE as you now see it. Please help me to make it one of our best. Would any of you be interested in having T/SNUG pick up where we leave off on support in the form of a magazine? They would definitely need people to provide them with articles for the Z88 and the QL. They have been strong in their support for the TS1000 and the TS2068. I will be sending them lists of current and past subscribers in North America. Those overseas I would want your okay before giving out your name and address.

New for TS1000 and ZX81 users. There is a new mini magazine dedicated just to them and it is from Germany. The first issue came out in January this year. It is free, as you only have to pay for the stamps. Send some IRCs (International Reply Coupons that should be available from your local Postal Service clerks).The address is:

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E-mail:
p.liebert@t-online.de
amateur radio:
DK4BF@DK0MAV.#NDS.DEU.EU

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SALE ON UPDATE BACK ISSUES

This is a very limited sale. Boxes of back issues of the magazine take up a lot of room. We need the room for other uses, and don't really want to send them to the land fill, so here is the offer.

You can get any four issues, except the current subscription year, for only $12 and this includes North American shipping. For other areas of the world add $2 for each four issues to cover extra postage. When you order give at least one alternative issue, as we may quickly run out of certain issues from years back. The first issue after we took over UPDATE was Oct.'90, so choose from then to the July '95 issue. Any left in a few months will be thrown out, so get them now, please.

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LogiCall Logic, the Explanation

by
The Author

LarKen users who have not yet tried LogiCall have told me that ads and articles had not clearly explained how the LogiCall Ensemble could help them. They had, therefore, not taken the opportunity to buy and use it. After sending them a copy of LogiCall, however, they were pleased with not only the speed but also the new and easier way to execute LarKen file management functions as well as the added utilities and improvements made to the BASIC drivers of many popular TS2068 programs.

LogiCall reduces the number of keystrokes required for LarKen's LKDOS. All the keys labeled by TIMEX for DOS operation now work without being preceded by RANDOMIZE USR 100: or PRINT #4: The best reason to use LogiCall is the EASE OF USE and GREATLY IMPROVED SPEED of all the features of LarKen DOS.

The LogiCall Concept LogiCall was developed after observing how the integrated software package MASS-11 ran on both a Digital Equipment Corporation mini-computer and an IBM PC. MASS is the acronym for Management Administrative System Software. MASS-11 contained a word processor, data base, spread sheet, terminal package, date planner, FAX and network applications tied all together with help files and supporting utilities. When you turned on the computer, a menu of application choices was presented on the screen. You could call up the application you wished to use by pressing two keys followed by <ENTER>. Furthermore, the utilities included with the package allowed the files to be passed from one application to another. However, unless you worked for an aerospace, pharmaceutical or chemical company, research lab or bank, you probably would have never seen this software in action for yourself because the cost of MASS-11 was too high for home use.

It was disturbing to me that LKDOS required the user to type RANDOMIZE USR 100: LOAD "filename.ex" to load in a program from a menu seen only after typing RANDOMIZE USR 100: CAT "",. I noted that quite a bit of computer time in front of the TS2068 was lost doing menial disk management tasks. RANDOMIZE USR 100: or PRINT #4: always had to be keyed in ahead of the DOS management task calls for execution. WHY SHOULD THIS BE WHEN THE TS2068 HAS ON THE KEYBOARD ALL THE KEYS NECESSARY FOR THE DOS FUNCTIONS?

The Added Enhancements The first thing I decided to do was to make all those DOS keys work without the RANDOMIZE USR 100: or PRINT #4: requirement. I also decided to write LogiCall to permit all the file management task calls executable by pressing just one key followed by <ENTER>, if one wished, rather than the TIMEX key sequence, like <E> <ENTER> or <7> <ENTER> instead of <SS> <CS> <ERASE> <ENTER>. Also, there are appropriate times for the disk menu to be displayed automatically on the screen, LogiCall could accommodate this.

Furthermore, LogiCall would be as transparent as possible. It would show no menus of its own and look to the user much like the LKDOS they were already used to seeing. Larry's CATalog screen looked very professional, all I would add was a line to show which drive the system was pointing to and two prompts.

WHEN YOU POWER UP THE TS2068 WHILE HOLDING DOWN THE <ENTER> KEY, THE CATALOG OF THE DISK IN DRIVE 0 APPEARS ON THE SCREEN. AT THE BOTTOM OF THE SCREEN YOU ARE GIVEN THE 'DRIVE?' PROMPT TO ALLOW YOU TO SELECT ANY OTHER DRIVE ON YOUR SYSTEM INCLUDING THE TAPE DRIVE. IF ANOTHER DISK DRIVE IS SELECTED, THE CATALOG OF THAT DISK IS DISPLAYED. THE 'DRIVE?' PROMPT IS NOW REPLACED BY THE 'PROGRAM?' PROMPT.

Since many files on a disk are related to application support, such as start-up screens and application machine code files, the concept of a **Brief** screen and **Verbose** screen was developed to make the disk CATalog easier to peruse.

THE DEFAULT DISK CATALOG DISPLAYS ONLY THE BASIC FILES HIDING THE CODE AND ARRAY FILES FROM VIEW UNLESS THE V KEY IS PRESSED AT THE 'PROGRAM?' PROMPT. THE USER CAN RETURN TO THE BRIEF CATALOG BY PRESSING THE B KEY AT THE 'PROGRAM?' PROMPT.

The next logical thing to do is to either load in a program or perform some disk management functions. Logically, the first time out, you may not know exactly how to proceed.

YOU MAY NOW PRESS <?> <ENTER> OR <H> <ENTER> TO DISPLAY A 'HELP' SCRIPT ON YOUR SCREEN. THIS TWO PAGE HELP SCRIPT PROVIDES A BRIEF DESCRIPTION OF ALL THE LOGICALL FUNCTIONS. BRIEF MEANS THAT ALTHOUGH A KEY IS GIVEN FOR EVERY POSSIBLE FUNCTION, NOT ALL OF THE OTHER KEY POSSIBILITIES ARE GIVEN. YOU SHOULD READ THE MANUAL THROUGH ONCE TO LEARN THEM ALL! ADDING AUTOSTART TO A DISK IS ALSO BRIEFLY DESCRIBED HERE.

This HELP script may be accessed at either the DRIVE? prompt or the Program? prompt and will always return to the proper prompt.

Not only is one key provided for all the disk management functions possible in LKDOS, there are several logical possibilities to perform that same function depending on your feeling of what that logic should be. For instance, to call the format routine you might use the keystroke sequence suggested by TIMEX, <SS> <CS> <0> <ENTER> to obtain the FORMAT key word. Though this is handled by LogiCall, the format routine can also be called with the sequences <F> <ENTER> and <0> <ENTER>, <0> being the key that has FORMAT under it.

To set the drive pointer, <D>, <G> or <8> returns the DRIVE? prompt to the screen, as does the POINT key word sequence, when the Program? prompt is on the screen.

Don't Quite Get It Yet? To activate the LKDOS function in the chart below, LogiCall allows you to press any of the following sequences or keys below followed by <ENTER>. Look at your TS2068 keyboard and see if you can follow The Logic of LogiCall by studying the chart below:

To Activate:	Key Sequence	Key Labeled	Logical Letter	or
AUTOSTART			N	
VERIFY	VERIFY	R		
RENAME		5	(Sorry, this one isn't logical)	
MOVE	MOVE	6	M	
ERASE	ERASE	7	E	
POINT	POINT	8	D	G
CATALOG	CAT	9		
FORMAT	FORMAT	0	F	

Are you beginning to understand The Logic now?

To create an AUTOSTART on a disk press <A> <ENTER>. To save the LogiCall Exec. to a disk press <S> <ENTER>. AUTOSTART and the LogiCall Exec., L.B1, should be on all your disks including the RAM DISK. The need old one track each!

If you wish the system pointer to point to a new drive, you can press 0, 1, 2, 3, 4 or T at the DRIVE? prompt. When you do this the catalog of that drive and the Program? prompt will be displayed. Also, at the Program? prompt you can now press 1, 2, 3 or 4 to select yet another drive, see The Logic? Note that 0 is missing from the list. This is because 0 calls the FORMAT program at the Program prompt. If, however, the FORMAT program is not on the current drive, pressing 0 will select drive 0 rather than the FORMAT program, see The Logic? LogiCall changed its logic to suit your logic. You knew that if FORMAT.B1 was not present on the displayed catalog then pressing 0, the key labeled FORMAT, would only produce a 'NO FILE' message. LogiCall changed its logic because it assumed you knew what you wanted to do, change the drive pointer to drive 0.

If you inadvertently press 6 instead of 5 at the Program? prompt to RENAME a file and the MOVE program, which contains a RENAME routine, is not on the current drive, the LogiCall RENAME routine will launch as though 5 had been pressed, do you see The Logic? LogiCall again changed its logic to suit your logic. You knew that if MOVE.B1 was not present on the displayed catalog, then pressing 6, the key labeled MOVE, would only produce a 'NO FILE' message. LogiCall changed its logic because it assumed you knew what you wanted to do, RENAME a file, a utility option of the MOVE program.

<T> and <W> call in the Terminal software and the Word processor software respectively. The terminal software can be MTERM II, LOADER V or MaxCom, in that order. If you have to briefly leave MTERM II for some reason, pressing <Y> will immediately return you to MTERM II if you haven't overwritten the machine code. The word processor can be TASWORD TWO, MSCRIPT or Spectral Writer, in that order. Of course, you may change LogiCall to call whatever you wish as it is written in BASIC.

The ability to peruse word processor files without first putting them into a word processor and displaying screen files on the monitor without first loading in a graphics application are features added for further speed and convenience. Also, LogiCall V6.0 automatically displays word processor files in 64 column mode if TASWIDE is also present on the disk. If TASWIDE isn't present on the current disk the files are displayed in 32 column mode.

The Ultimate AUTOSTART To save a great deal of time, the feature of installing AUTOSTART to a disk by pressing 'A' <ENTER> was added so that the user doesn't have to modify some previously written menu program and copy it to another disk. Previous AUTOSTART programs sometimes took more than one disk track to store. AUTOSTART really needs to do little more than switch the right System ROM into service and call the next program to run. This makes Menu programs easier to write. Please take the time to read a previous article entitled "The Ultimate AUTOSTART" to better understand this concept. An updated version of this article is also included in the LogiCall V6.0 Manual.

Swap ROMS On The Fly The AUTOSTART created by LogiCall V6.0 is capable of switching system ROMs. The explanation of how to accomplish this was discovered in the original LarKen manual, but few people fully understood how to make it work. Thanks to the wisdom of a yet unknown Toronto area programmer, the LarKen user no longer has to hold the K key down at boot up or use the OUT 244,3 call to turn on the Spectrum ROM. Switching between the Timex ROM and the Spectrum ROM is accomplished by first pointing to a disk with the proper AUTOSTART and then pressing 'N' <ENTER> at the 'Program?' prompt. If AUTOSTART calls what author Les Cottrell refers to as 'The Guilder Lilly' version of NMI-F.B1, then pressing the LarKen NMI button followed by F will re-boot the system on the last drive which ran NMI-F.B1 allowing you to exit gracefully from those otherwise exit-less programs.

Improved BASIC Drivers BASIC drivers have been modified to provide better menus, easy SAVE and LOAD routines for both the complete application program and the data files they use. When data files are about to be SAVEd or LOADed, a brief disk CATalog is presented on the screen. TASWORD TWO was modified to load and save files typing the filename only once and without typing the extension. LOADing and SAVEing to tape was also added back to the LarKenized version of TASWORD TWO. VU-CALC now has a HELP script!

The New Manuals LogiCall V6.0 comes with two NEW manuals, an updated more complete easy to read LarKen LKDOS Version 3 manual and an updated LogiCall Version 6.0 manual with sections on the utilities and BASIC drivers for the modified commercial software. **Even if you have older versions of LogiCall, these two new manuals are worth the price of V6 ownership.** The new LarKen manual includes all known missing information related to operation with the JLO interface and the TASMAN B CPI printer interface. Use of the Commodore 1520 compatible mouse is also covered. These manuals were developed over an eight month period and the masters printed on a laser printer.

The LogiCall Package Besides the two NEW manuals mentioned above, the LogiCall ensemble includes the following utilities and modified BASIC drivers for you most popular software:

ADDRESS BOOK CONTAINING OVER 400 KNOWN SINCLAIR USERS, BASIC TO TEXT, TS2068 PHONE DIRECTORY DIALS YOUR PHONE FOR YOU, DISK LIBRARY, FORMAT.B1, TAPE HEADER READER, THE LOGICALL EXEC, MOVE.BL, MSCRIPT & MTERM FOR LOGICALL, MSDOS DISK READER, NMI-F REBOOTS SAME DISK YOU ORIGINALLY BOOTED UP ON, HEAD STEP RATE CHANGER, TAPE LIBRARY, TASWORD TWO FOR LOGICALL, VU-CALC FOR LOGICALL, VU-FILE FOR LOGICALL, VU-3D FOR LOGICALL, PRINT VU-CALC FILES TO LARGE PRINTER, CHANGE VU-CALC FILES TO TASWORD FILES, HUNT THE WUMPUS, CHANGE SCREEN FILES TO TASWORD FILES, QCHART FOR LOGICALL.

Hunt The Wumpus is a game first written on the ZX81 to show programmers how to write flicker free interesting screens and accept keyboard input without having to press the ENTER key on an otherwise not too interesting game. This version is quite a bit more fun than the original that ran on an APPLE.

Modifications to the commercial software covered in the LogiCall manual explain only changes to that software and not any of the standard operating features of that software. If you do not own manuals for the commercial software listed above, you must purchase the tape version of that software from your software vender to legally use that software.

A Mere Pittance This is no doubt the final version of LogiCall as all the desired features are in with nothing more planned. All the shortcomings and bugs have been eliminated. The price of the entire LogiCall package is $15, every bit of which goes to the vendors to help them stay around to supply the needs of the Sinclair community. Frank and Carol Davis travel to many computer shows to provide us with products for our machines and Rod Gowen has for years provided us with much needed Sinclair items. Please help support these vendors by purchasing a copy of LogiCall V6.0 for your LarKen System now. The NEW MANUALS alone are worth the investment.

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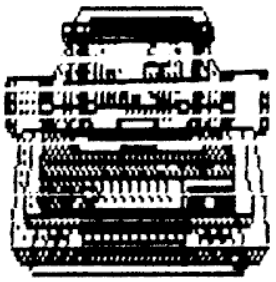

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TS2068 SOL BBS REPORT from David Lassov

Editors note: We covered some of this new BBS in our last issue. I encourage those of you who like to program and are interested to contact Dave and get involved with this. You can contact David at : 2590 North Jordan Drive, Tucson, AZ 85745-1132. Phone for voice at 602-884-7667 and by modem at 602-882-0388. ***FWD***

This is a report on the current status of SOL BBS, the 2068-based bulletin board system that has been growing in Tucson, AZ since the end of 1995.

It has achieved all of its preliminary design objectives, which were to maximize the capabilities of the Timex-Sinclair 2068 as a platform for Data Communications.

We feature trouble-free time-tagging of the time-on, current time, elapsed time, message entry time, and - well, you get the picture! !

Thanks go to BOTH Jack Dohany AND Larry Kenny for the successful mods. We are carrying software for an autonomous version too, in case the 2068 by not having a Dallas Smartwatch chip wherein times are simply absent.

The major hangup has been the unsatisfactory performance of Larry's modem in the case of FULL DUPLEXity. Messages kept being received clearly, but were not echoed back hardly at all. So the first thing we finally had to do was GIVE UP ON MESSAGING AT FULL DUPLEX.

Understandably, this created a lot of problems with PRINTing of double-characters , as we frantically searched for and destroyed the many PRINT #7 instructions to the callers' screens.

But, just as understandably, this put the onus on the user, to VIEW his or her message prior to SAVEing it to the message base.

Well, this was a perfect place to install our WELL-TESTED line editor. Of course we had continually to keep throwing out unneeded capabilities as we scrounged around for FREE RAM! !

This invited another consultation with Larry Kenny. As a result we THREW OUT keyboard scanning with INKEY$ #7 along with FULL DUPLEX. Now, SOL BBS RELIABLY reads a line of message from the modem channel #7, using INPUT #7 ! ! ! !

However, READing the modem with INPUT #7 is of limited help when READing ASCII files into the message base. The best way, the proper way, to RECEIVE ASCII files is in TERM MODE, but we still lose 2 characters out of each 64-character line.

So the best way to transfer files with Maxcom is in 128-byte blocks with Xmodem Checksum protocol.

By the way, Paul Holmgren's implementation of ISTUG's BBS software uses precisely this last method of reading from the modem a line of the user's message. INPUT #7 uses rapid Z80 CODE to read the whole line and store it in the message base before returning to BASIC. So it is pretty fast. Larry says that the ultimate way of reading the modem would be entirely in Z80 assembly language. But we will leave that to someone else.

In conclusion, we can say that the SOL BBS software is almost a complete implementation of data communications on the TS2068.

****

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The John Oliger Floppy Disk System for the TS2068, consisting of the following:

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- Bare pc with JLO Safe Disc eprom: $26.95pp
- Kit of board with parts: $45.95pp
- Assembled and tested: $63.95pp

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- Bare pcs only with JLO SAFE eprom: $43.95pp
- Kit of both boards with parts: $99.95pp
- Both boards assembled & tested: $127.95pp
- Both boards assembled & tested w/2-drive data cable: $139.95
- The Diskworks! Both bds assd w/2-drv data cable & assd 2068 Expansion Board: $189.95pp
- 2068 EXPANSION BOARD: plugs in the expansion port on back of 2068, pass thru for other peripherals, giving you 4 expansion slots. All devices, except for the 2068 User Cart Board, use this board.
- Bare pc board: $14.95
- Board with parts: $43.95
- Assembled & tested: $54.95

Indiana residents please add 5% Sales Tax.

Send a SASE for more information on our other fine products for the TS2068. We also offer upgrades of your existing eprom on your JLO boards.

At this time the JLO disk drive system is the only one still in production for the TS2068, and has sold nearly as many units as all the other systems combined. Try it and see why!

****

CHARACTER RECOGNITION
for the TS2068?

by
Bob Swoger

Converting Screen Saves to TASWORD TWO Documents.

Were you not amazed when you first saw the Macintosh and IBM type computers take pictures on the screen of scanned in documents and turn that information into word processor files. Certainly no one had made a scanner interface for the TS2068 but there was something familiar about what was going on. Did I not see something in the TS2068 manual that stated that the TS2068 could turn pixels on the screen into characters recognizable by a word processor?

Joyce Blaho had given me the idea for the $C2TAS.B1 character recognition utility when she told me of a user group member who detested the retyping his program listings for use in the newsletter because of all the typing errors that would creep in. Since this utility places the screen characters into the TASWORD file exactly where they are located on the screen, the person typing the program into his computer can see every character and space so that his finished program will look just like the original programmers document.

Bill Jones had a product called the DAISY Ensemble that called in SCREEN$ saves as menus throughout the program. David Lassov and I had both noticed how disk intensive this practice was which was no problem to Bill as he had four DSQD drives and could afford the waste of space. Each SCREEN$ menu cost two tracks on a LarKen disk. David changed these menus back to short BASIC routines that exactly displayed these screens using shorted faster to load files. Certainly $C2TAS.B1 could turn Bill's SCREEN$ save pixels back into word processor text files.

Don Lambert, Chairman of the Timex Sinclair NorthAmerican User Groups, recently wrote to say that he wanted to make word processor files of LarKen disk CATalogs. However, on only a few disks, he had trouble doing this using some sort of utility available in MSCRIPT. Not being a user of MSCRIPT, I was unfamiliar with this feature and couldn't tell him why it didn't work.

I reminded him of a program available with the LogiCall ensemble that examines each point on the screen and flawlessly creates a TASWORD TWO file with every character in exactly the same place as it was on the screen EVERY TIME! Using the SCREEN$(x,y) function, each point on the TS2068 screen is parsed and the result poked into the appropriate location of a TASWORD TWO file. Because TASWORD TWO can append files to create one larger list, a catalog list can be made of all the disks in one library case.

HEY, isn't that what those Macintosh and IBM character recognition programs do?!!!! We have been able to do this since 1982 - Macintosh didn't even exist until 1984-5 and character recognition not until the late '80s!

If the SCREEN$ were made with something other than the TS2068 character set the $C2TAS.B1 program would not work, that is, not until you install the exact character set into the TS2068 that created that font for the original SCREEN$ save! That is not much of a problem. This utility can recognize characters made up of fonts other than the standard Sinclair font provided the font is loaded into the TS2068 and the character set

pointer is pointing to it as explained in the Timex Manual.

If the document does not line up with the exact position on the SCREEN$ (x,y) $C2TAS.B1 can't read it. But use Stan Lemke's PIXEL PRINT PLUS program to realign the document and $C2TAS.B1 can again read it. Most SCREEN$ saves, however, do not need the extra effort.

To use this utility, you first put on your screen the portion of the document you wish to put into TASWORD. Assuming you are using the LarKen Disk Drive System, press the NMI save button followed by 'S'. This will create a file on your disk called SCREEN.CM.

Now run the $C2TAS.B1 utility. This utility puts the SCREEN.CM file back up on the screen, parses it and creates a screen.CT file. After a short wait the program calls in TASWORD TWO. You will now find a file in your CATalog called screen.CT. Call this file into TASWORD. If you are building a long list, save this file to disk using the filename of the final document. Repeat the above again but on successive calls of the screen.CT file into TASWORD load the document you are building first and then MERGE (append) the screen.CT file to it and re-save the entire file using the filename of the final document.

The listing below was make using this procedure as was all listings of past issues of Nite-Times News.

```
  10 REM  SCREEN$ TO TASWORD TWO
       1996 by Bob Swoger V1.3
  20 CLS : PRINT '''This program
 creates a screen.CTTASWORD 2 fi
le from a SCREEN.CM  file provid
ed it contains only     printabl
e characters.": PAUSE 1e3
  30 RANDOMIZE USR 100: LOAD "SC
REEN.CM"SCREEN$
  40 INPUT ;: PRINT #0; FLASH 1;
"Converting SCREEN$ to TASWORD 2
"
  50 LET t=33280
  60 FOR r=0 TO 21
  70 FOR c=0 TO 31
  80 POKE t,CODE SCREEN$ (r,c)
  90 LET t=t+1
 100 NEXT c
 110 FOR t=t TO t+31 STEP 2
 120 RANDOMIZE USR 100: POKE t,8
224
 130 NEXT t
 140 NEXT r
 150 RANDOMIZE USR 100: SAVE "sc
reen.CT"CODE 33280,1408
 160 RANDOMIZE USR 100: LOAD "TA
SWOR.BA"
9992 RANDOMIZE USR 100: SAVE "$C
2TAS.B1" LINE 20
9998 RANDOMIZE USR 100: LOAD "L.
B1"
9999 SAVE "$C2TAS.B1" LINE 20
```

How about that! Character recognition on the TS2068 years before it was available for the Macintosh and IBM? Well, I'd like to think so!

Sinclair ZX81 FAQ. Version 1.3. Last Revised 13/6/95.

(FAQ stands for Frequently Asked Questions)

The FAQ is in three sections:

1 - Information for people new to the ZX81.
  Mostly stuff for people who've never seen one before.
2 - ZX81 Emulators.
  About the various emulators available, and how to use them.
3 - ZX81 Hacking and Trivia.
  All the 'interesting' questions and answers.

---

1 - Information for people new to the ZX81.

Q: What the hell's a ZX81?
A: Good question. The ZX81 is a small home computer that was quite popular in the early eighties. It was built by Sinclair Research (who also made the Mk14 kit, ZX Spectrum, ZX80 and QL computers.)

It was a highly revolutionary design, containing only four integrated circuits. Most machines at the time needed twenty or so. This allowed the machine to be produced very cheaply, making it the first computer in the UK available for less than a hundred pounds.

The ZX81 was released in North America as the Timex-Sinclair 1000, and marketed by Timex. A TS-1500 was a TS-1000 with 16K of RAM built in.

Over a million ZX81's and TS-1000s were sold worldwide.

Q: Where can I get the latest information about the ZX81?
A: Read the newsgroup comp.sys.sinclair. It's mainly about the ZX Spectrum, but quite a lot of ZX80, ZX81 and QL stuff appears in it. It's also available as a mailing list. Send the message:

  subscribe sincnews <your email address>

e.g.: subscribe sincnews joe@somemachine.someplace.somecountry
to lserv@psg.com. You can send messages to the newsgroup/mailing list by sending email to sincnews@psg.com. A word of warning though, there's about 250 messages a week, so be prepared to be swamped if you get it through the mailing list.

You could also try looking for the latest version of this FAQ. It should be available on the following URL:

  http://www.gre.ac.uk/~bm10/zx81.faq.

There's a few useful WWW pages too:

  http://www.gre.ac.uk/~bm10/zx81.html
    My ZX81 home page. Needs a bit of work yet.
  http://www.maths.nott.ac.uk/personal/cpg/zx81
    The original ZX81 home page. Getting a bit out of date.
  http://www.cs.umd.edu/users/fms/comp/
    Marat Fayzullin's emulation and computing page.
  http://www.csv.warwick.ac.uk/~mauqx/
    Bob Tinsley's page with ZX81 manual transcription.

Q: What are the specifications of the ZX81?
A: Integrated Circuits:
Z80A Microprocessor clocked at 3.25MHz.
1K RAM, expandable to 16K, 32K or 56K.
8K ROM containing BASIC.
A single ULA for all I/O functions.
Ports:
Bus connector for adding peripherals.
3.5mm cassette tape interface for loading/saving programs.
UHF output for display on a TV set.
9v DC power supply. Smoothed down to 5v.
40 key touchpad keyboard.
Screen Resolution:
32x24 Text.
64x48 'graphics'.
256x192 Hi-Res graphics. (But see notes.)
Various overscan modes. (Since it's only outputting to a TV set.)
Memory Map:
0-8K BASIC ROM.
8-16K Shadow of BASIC ROM. Can be disabled by 64K RAM pack.
16K-17K Area occupied by 1K of onboard RAM. Disabled by RAM packs.
16K-32K Area occupied by 16K RAM pack.
8K-64K Area occupied by 64K RAM pack.

Q: What's a RAM pack?
A: A device that could be plugged in to the bus connector to increase the memory size of the machine. 16K was the most common size. 32K and 64K packs were also available. The original 1K was displaced when a RAM pack was added. The 64K RAM pack only gave you 56K as you still need to have the ROM in the Z80's memory map.
Q: What was the ZX Printer?
A: It was a printer (shock!) that you attached to your ZX81 or ZX Spectrum via the bus connector. It ran off the power lines in the bus, so you needed a souped-up power supply for it. It used a special sort of grey, metallic, thermal paper that looked like a rather evil sort of toilet roll. It could be quite noisy (and occasionally smelly) whilst in operation and the print quality was less than desirable.
Q: Where can I get a ZX81, and what's the going rate?
A: Since the ZX81 is no longer in production, you'll have to find someone willing to sell you one. They're not exactly antiques yet so you should still have a chance of getting one quite cheaply.

You can find (at least in the UK) lots of second hand ones for sale in magazines like Micro Mart, at car-boot sales, school fairs etc.

The going rate is about 10 pounds, maybe 10 pounds more for a 16K RAM pack. If you're good at haggling you might get it for 10 pounds complete. Other hardware is a bit more tricky to find, and consequently can by quite expensive.

Q: What are the best ZX81 games?
A: Have a look at the all-time ZX81 charts on the following URL:
http://www.gre.ac.uk/~bm10/zx81cht.txt
There's also a voting template so you can vote for your favourite games.

BBS AND INTERNET SLANG ABBREVIATIONS

Over the years quite a number of abbreviations for expressions, acronyms really, have come into use on the net. To help you understand these cryptic terms, we reproduce the list below: I find that though I may not use many of these terms it does help to know what others are saying. There are times that without knowing what these abbreviations mean that you could find yourself wondering just what the heck the writer meant in an email or text file on the Internet or a BBS.

Acronyms List:

AAMOF = As A Matter Of Fact
ADN = Any Day Now
AFAIK = As Far As I Know
AIM = Another IBM Mistake
ATSL= Along The Same Line
AWGTHTGTTA = Are We Going To Have To Go Through This Again?
Alternative form is AWGTHTGTATA (...Through ALL This Again?)
BAC = By Any Chance
BAG = Busting A Gut (Laughing)
BBFN = Bye Bye For Now
BCNU = Be Seeing You
BFGWST = Big Fat Grin With Sharp Teeth
BIOYIOP = Blow It Out Your Input Output Port
BK = Because
BNF = Big Name Fan
BRB = Be Right Back (generally used on chat systems)
BRS = Big Red Switch (on/off sw on original IBM machines)
BTA = But Then Again
BTSOOM = Beats the [stuffing] out of me
BTW = By The Way
BWG = Big Wide Grin
BYKT = But You Knew That
BYKTA = But You Knew That Already
CE = Creative Editing [used in ANSI confs]
CMIIW = Correct Me If I'm Wrong
CUL = See You Later
CU L8R = See You Later
CYA = Cover Your A** (Ascii ?)
CYL = See You Later
DIIK = Damned If I Know
DILLIGAFF = Do I Look Like I Give a Flying Figment
DLG = Devilish Little Grin
DNPM = Darn Near P***ed Myself
DOM = Dirty Old Man
DTRT = Do The Right Thing
EMFBI = Excuse Me For Butting In
EOD = End Of Discussion
EOL = End Of Lecture
EOT = End Of Thread

ER = Hello
ESOSL = Endless Snorts of Stupid Laughter
FDROTFL = Falling Down Rolling On The Floor Laughing
FISH = First In, Still Here
FITB = Fill In The Blank....
FOAF = Friend of A Friend
FOTCL = Falling Off The Chair Laughing
FWIW = For What It's Worth
FYEO = For Your Eyes Only
FYI = For Your Information
GD&R = Grin, Duck & Run
GIGO = Garbage in, Garbage Out
GIGO = Garbage In, Gospel Out (people accepting blindly what the computer says)
GIWIST = Gee I Wish I'd Said That
GLG = Goofy Little Grin
GLGH = Good Luck and Good Hunting
GO PRI = Send Private Mail
GOK = God Only Knows
GOTFIA = Groaning On The Floor In Agony
GR 8 = Great
HHTYAY = Happy Holidays to You and Yours
IAC = In Any Case
IAE = In Any Event
ICOCBW = I Could, Of Course, Be Wrong
IMCO = In My Considered Opinion
IMCDO = In My Conceited Dogmatic Opinion.
IMHO = In My Humble Opinion
IMO = In My Opinion
IMNSHO = In My Not So Humble Opinion
IOW = In Other Words
IITYWYBMAB = If I Tell You, Will You Buy Me A Beer
IITYWYBAD = If I Tell You, Will You Buy Another Drink
IMV = In My View
INPO = In No Particular Order
ISBAB = I Should Have Bought a Book
ITSFWI = If The Shoe Fits, Wear It
IWBNI = If would Be Nice If
JOOC = Just out of Curiosity
KCBIWIYWI = Keep Coming Back, It Works If You Work It
KHYF = Know How You Feel
KISS = Keep It Simple Stupid
LLTA = Lots and Lots of Thunderous (or Thundering) Applause
LOL = Laughing out loud
LMAO = Laughing My A** Off
LTMSH = Laughing 'Til My sides Hurt
LTNT = Long Time, No Type
MLA = Multiple Letter Acronym
MORF = Male Or Female
MOTAS = Member of the Appropriate Sex

MOTOS = Member of the Opposite Sex
MOTSS = Member of the Same Sex
MUNG = Mash Until No Good
NBL = Not Bloody Likely
NICBDAT = Nothing Is Certain But Death And Taxes
NIMBY = Not In My Backyard
NIMTO = Not In My Term of Office
NPLU = Not People Like Us
NQOS = Not Quite Our Sort
NRN = No Reply Necessary
NTYMI = Now That You Mention It
OAS = On Another Subject
OIC = OH!, I See
OTOH = On The Other Hand
PBX = Private Branch eXchange
PF&HOMW = Printed, Framed & Hanging On My Wall
PGY = Post Graduate year PGY-1, PGY-2 etc. used in PGY Med
PITA = Pain In The A**
PLOKTA = Press Lots of keys to abort
PMETC = Pardon Me Etc.
PMJI = Pardon My Jumping In
POSSLQ = Person of Opposite Sex Sharing Living Quarters
POV = Point Of View
PPTSPAHS = Please pass the salt, pepper and hot sauce...used when I've had to eat crow, my hat, and other unsavory dishes!
PTO=Patent and Trademark Office (US Govt)
PMYMHMMFSWGAD = Pardon Me, You Must Have Mistaken Me For Someone Who Gives A Damn.
ROFL = Rolling On Floor Laughing
ROFLAHMSL = Rolling On Floor Laughing And Holding My Sides Laughing
ROTBA = Reality On The Blink Again
ROTFL = Rolling On The Floor Laughing
ROFLASTC (or ROFLASC) = Rolling On The Floor Laughing And Scaring The Cat. Originated, I'm told by Pamela Dean, who types with a cat on her lap.
ROTFLMAAOBPO = Rolling On The Floor Laughing My A** And Other Body Parts Off
ROTM = Right On The Money
ROY G. BIV = An acronym for the colors of the spectrum-- Red Orange Yellow Green Blue Indigo Violet
RSN = Real Soon Now
RTFM = Read The F**** Manual
SFLA = Stupid Four Letter Acronym
SITD = Still in the dark
SMOP = Small Matter of Programming
SOP = Standing Operational Proceedures
SOW = Speaking of Which
SWAG = Simple Wild A** Guess
SYT = Sweet Young Thing
TAFN = Thats all for Now
TANJ = There Ain't No Justice

TANSTAAFL = There Ain't No Such Thing As A Free Lunch
TDM = Too Damn Many
TIA = Thanks In Advance
TIC = Tongue In Cheek
TINALO = This Is Not A Legal Opinion
TINAR = This Is Not A Recommendation
TIWTGLGG = This Is Where The Goofy Little Grin Goes
TJATAW = Truth, Justice, And The American Way
TLA = Three Letter Acronym (now surpassed by MLA)
TPTB = The Powers That Be
TOBAL = There Oughta Be A Law
TOBG = This Oughta Be Good
TRDMC = Tears Running Down My Cheeks
TSR = Terminate and Stay Resident program
TTBOMK = To The Best Of My Knowledge
TTFN = Ta Ta For Now
TTYL = Talk To You Later
TYVM = Thank You Very Much
WAMKSAM = Why Are My Kids (or Kitties) Staring At Me?
WAW = Why Ask Why?
WIBAMU = Well I'll be a Monkey's Uncle
WIMP = Windows, Icons, Mouse, Pointing (to describe Windows & other similar interfaces)
WRT = With Respect To
WYGIWYPF = What you get is what you pay for
WYSBYGI = What You See Before You Get It
WYSIWYG = What You See Is What You Get
WYTYSYDG = What You Thought You Saw, You Didn't Get
YABA = Yet Another Bloody Acronym
YAFA = Yet Another "Fine" Abbreviation
YMBK(J) = You Must Be Kidding (Joking)
YAP = Yet Another Ploy
YGLT = You're Gonna Love This ...
YMMV = Your Mileage May Vary

Military

SHAEF = Supreme Headquarters Allied Expeditionary Force
ETO = European Theater of Operation
NORAD = North American Air Defense Command
AEF = America Expeditionary Force
BEF = British Expeditionary Force
ANZAC = Australian & New Zealand Army Corp
BOHICA = Bend Over Here It Comes Again
CATTAC = Chief Assistant To The Assistant Chief
DILLIGAFF = Do I Look Like I Give A Flying F#$%
FOAD = Fall Over And Die
FUBAR = Fouled Up Beyond All Reconigition
FUBB = Fouled Up Beyond Belief
HMFIC = Head M** F** in Charge
HMFICC = Head M** F** in COMPLETE Charge

KISS = Keep It Simple Stupid
POETS = "Pass" On Everything, Tomorrow's Saturday
POINTS = "Pass" On It Now, Tomorrow's Saturday
REMF = Rear Echelon M** F**
SNAFU = Situation Normal All Fouled Up
SOP = Standing Operational Proceedures
TLAM = Tomahawk Land-Air Missile...aka Cruise Missile
TPTB = The Powers That Be

Others

LLAP - Live Long And Prosper
LA - Laughing Aloud
AAA - Amazingly Appropriate Abbreviation.
FTL - Faster Than Light
RPG - Role Playing Game
SFX - Special Effect
YAP - Yet Another Ploy
YAR - Yet Another Rumor
GMTA - Great Minds Think Alike
IDIC - Infinite diversity in infinite combinations
TTFN - Ta Ta For Now
TTYL - Talk To Ya Later
YASQ - Yet Another Stupid Question
DQOTD - Dumb Question Of The Day
ROBTA - Reality On the Blink Again
IMO - In My Opinion
L8R - Later
ROTM - Right On The Money
SIG - Special Interest Group
TTMS - Talk (Type) To Me Soon
TTYL(A) - Talk (Type) To You Later (Alligator)

Technical

AI Artificial Intelligence
ANSI American National Standards Institute
ASCII American Standard Code for Information Interchange
BASIC Beginner's All purpose Symbolic Instruction Code (programming)
BCD Binary Coded Decimal (programming)
BIOS Basic Input Output System
BPS Bits Per Second (communication)
CAD Computer Aided Design
CAE Computer Aided Engineering
CAM Computer Aided Manufacturing
CASE Computer Aided Software Engineering (programming)
CCITT Consultative Committee for International Telephony & Telegraphy
CD-ROM Compact Disk-Read Only Memory
CGA Color Graphics Adapter (screen)
CMOS Complementary Metal Oxide Semiconductor (memory)
CPI Characters Per Inch (printer)

CPL Characters Per Line (printer)
CPS Characters Per Second (communication)
CPU Central Processing Unit
CRT Cathode Ray Tube (screen)
DD Double Density (floppy disk)
DEC Digital Equipment Corporation
DES Data Encryption Standard
DIF Device Input Format
DIP Dual In-line Package (memory)
DMA Direct Memory Access
DS Double Sided (floppy disk)
DV DESQview (multitasking program)
EGA Enhanced Graphics Adapter (screen)
EMM Expanded Memory Manager (memory)
EMS Expanded Memory Specification (memory)
EOF End Of File
EOL End Of Line
EPROM Erasable Programmable Read Only Memory (memory)
ESDI Enhanced Small Device Interface (hard disk)
FAT File Allocation Table (disk)
FCC Federal Communications Commission (communication)
GUI Graphical User Interface (screen)
HD High Density (floppy disk)
HGC Hercules Graphics Card (screen)
I/F Interface
I/O Input/Output
IDE Intergrated Drive Electronics (hard disk)
KB Kilo Byte = 1,024 bytes
LIM Lotus Intel Microsoft Expanded Memory Specification
LPI Lines Per Inch (printer)
MB Mega Byte = 1,048,576 bytes
MDA Monochrome Display Adapter (screen)
MFM Modified Frequency Modulation (hard disk)
MIPS Millions of Instructions Per Second
MIS Management Information Systems
MMU Memory Management Unit
MNP Microcom Network Protocol (communication)
MS Microsoft
OEM Original Equipment Manufacturer
POST Power On Self Test
PROM Programmable Read Only Memory (memory)
RAM Random Access Memory (memory)
RLL Run Length Limited (hard disk)
TPA Third Party Applications
GAFMOI Getting away from most of it
GAFIA Getting away from it all (said of someone dropping out)
RTM Read The Manual
RTFM Here, Sir; Let Me Do This For You, Sir (Military)

EFF's Guide to the Internet, v. 3.1, part 4

(Next issue we will conclude our series on this Internet Guide. We have tried to only include the parts of the guide that are applicable to our Sinclair computers using a Shell Internet account. Most of the rest applies to IBMs and MACs only at this time.)

2.4 SMILEYS

When you're involved in an online discussion, you can't see the smiles or shrugs that the other person might make in a live conversation to show he's only kidding. But online, there's no body language. So what you might think is funny, somebody else might take as an insult. To try to keep such misunderstandings from erupting into bitter disputes, we have smileys. Tilt your head to the left and look at the following sideways. :-). Or simply :). This is your basic "smiley." Use it to indicate people should not take that comment you just made as seriously as they might otherwise. You make a smiley by typing a colon, a hyphen and a right parenthetical bracket. Some people prefer using the word "grin," usually in this form:

<grin>

Sometimes, though, you'll see it as *grin* or even just <g> for short.

Some other smileys include:

;-) *Wink;*
:-(*Frown;*
:-O *Surprise;*
8-) *Wearing glasses;*
=I:-)= *Abe Lincoln.*

OK, so maybe the last two are a little bogus :-).

2.5 SENDING E-MAIL TO OTHER NETWORKS

There are a number of computer networks that are not directly part of the Net, but which are now connected through "gateways" that allow the passing of e-mail. Here's a list of some of the larger networks, how to send mail to them and how their users can send mail to you:

America Online

Remove any spaces from a user's name and append "@aol.com," to get
user@aol.com

America Online users who want to send mail to you need only put your Net address in the "to:" field before composing a message.

ATTMail

Address your message to user@attmail.com.

From ATTMail, a user would send mail to you in this form:

internet!domain!user

So if your address were nancyr@world.std.com, your correspondent would send a message to you at

internet!world.std.com!nancyr

Bitnet

Users of Bitnet (and NetNorth in Canada and EARN in Europe) often have addresses in this form: IZZY@INDVMS. If you're lucky, all you'll have to do to mail to that address is add "bitnet" at the end, to get izzy@indvms.bitnet. Sometimes, however, mail to such an address will bounce back to you, because Bitnet addresses do not always translate well into an Internet form. If this happens, you can send mail through one of two Internet/Bitnet gateways. First, change the @ in the address to a %, so that you get username%site.bitnet. Then add either @vm.marist.edu or @cunyvm.cuny.edu, so that, with the above example, you would get izzy%indyvms.bitnet@vm.marist.edu or izzy%indvyvms.bitnet@cunyvm.cuny.edu
Bitnet users have it a little easier: They can usually send mail directly to your e-mail address without fooling around with it at all. So send them your address and they should be OK.

CompuServe

CompuServe users have numerical addresses in this form: 73727,545. To send mail to a CompuServe user, change the comma to a period and add "@compuserve.com"; for example: 73727.545@compuserve.com.
Note that many CompuServe users must pay extra to receive mail from the Internet.
If you know CompuServe users who want to send you mail, tell them to GO MAIL and create a mail message. In the address area, instead of typing in a CompuServe number, have them type your address in this form:

INTERNET:YourID@YourAddress.

For example, INTERNET:adamg@world.std.com.

Delphi

To send mail to a Delphi user, the form is *username@delphi.com.*

Fidonet

To send mail to people using a Fidonet BBS, you need the name they use to log onto that system and its "node number." Fidonet node numbers or addresses consist of three numbers, in this form: 1:322/190. The first number tells which of several broad geographic zones the BBS is in (1 represents the U.S. and Canada, 2 Europe and Israel, 3 Pacific Asia, 4 South America). The second number represents the BBS's network, while the final number is the BBS's "FidoNode" number in that network. If your correspondent only gives you two numbers (for example, 322/190), it means the system is in zone 1.
Now comes the tricky part. You have to reverse the numbers and add to them the letters f, n and z (which stand for "FidoNode,""network," and "zone'). For example, the address above would become *f190.n322.z1.*
Now add "fidonet.org" at the end, to get f190.n322.z1.fidonet.org. Then add "FirstName.LastName@', to get

FirstName.LastName@f190.n322.z1.fidonet.org

Note the period between the first and last names. Also, some countries now have their own Fidonet "backbone" systems, which might affect addressing. For example, were the above address in Germany, you would end it with "fido.de" instead of "fidonet.org."

Whew!

The reverse process is totally different. First, the person has to have access to his or her BBS's

"net mail" area and know the Fidonet address of his or her local Fidonet/UUCP gateway (often their system operator will know it). Your Fidonet correspondent should address a net-mail message to UUCP (not your name) in the "to:" field. In the node-number field, they should type in the node number of the Fidonet/UUCP gateway (if the gateway system is in the same regional network as their system, they need only type the last number, for example, 390 instead of 322/390). Then, the first line of the message has to be your Internet address, followed by a blank line. After that, the person can write the message and send it.

Because of the way Fidonet moves mail, it could take a day or two for a message to be delivered in either direction. Also, because many Fidonet systems are run as hobbies, it is considered good form to ask the gateway sysop's permission if you intend to pass large amounts of mail back and forth. Messages of a commercial nature are strictly forbidden (even if it's something the other person asked for). Also, consider it very likely \that somebody other than the recipient will read your messages.

GEnie

To send mail to a GEnie user, add "@genie.geis.com" to the end of the GEnie user name, for example: walt@genie.geis.com.

MCIMail

To send mail to somebody with an MCIMail account, add "@mcimail.com to the end of their name or numerical address. For example:

555-1212@mcimail.com or

jsmith@mcimail.com

Note that if there is more than one MCIMail subscriber with that name, you will get a mail message back from MCI giving you their names and numerical addresses. You'll then have to figure out which one you want and re-send the message.

From MCI, a user would type

Your Name (EMS)

at the "To:" prompt. At the EMS prompt, he or she would type *internet* followed by your Net address at the "Mbx:" prompt.

Prodigy

UserID@prodigy.com. Note that Prodigy users must pay extra for Internet e-mail.

Editors Note: Almost all of the On-Line services such as Prodigy, AOL are constantly changing the way they do fees and hours, so some of what we give in those areas will of course be open to constant change as they battle with each other over market share. This is much of what we have had nationwide since the AT & T breakup in the area of phone service. Just as soon as you think you have the best deal and long distance plan ..... you get an offer for another. All of the other information should be applicable for some time to come. ***FWD***

QL CORNER by Bob Gilder

from the pages of L.I.S.T. Newsletter

November seemed to me as though it was Christmas. After a long wait, I received a Di-Ren keyboard interface for AT 101/102 keys keyboard. The interface is the smallest of QL keyboard interfaces and it operates from a PIC1C57 micro chip, which is fitted to the underside of the PC board. All 12 function keys are operable. There are two header jumpers on the side of the interface and are labeled C1 and C2. respectively. C1 doesn't have to be changed, as it controls an electronic keyboard lock. The C2 jumper sets the keyboard for either a 101 or 102 keyboard; pins 1 and 2 are jumpered for a 101 key keyboard and pins 2 and 3 are for a 102 key keyboard.

You have to remove the 8049 chip from its' socket and then the interface plugs into the IC 8049 socket and the IC plugs into the 40 pin IC socket on the interface. The keyboard connector for the fitting of a keyboard is approximately 10 inches in length with a female 5 pin DIN connector. I received my AST 101 keyboard several days after the interface arrived. I was astonished when I saw the size of the keyboard; it was small! The keyboard was a charcoal color with 12 function keys across the top of the keyboard. Every key is operational. I still can't get used to the function keys at the top of the keyboard since I have been using 84 key keyboards with ten function keys at the left-hand side of the keyboard. You can order directly from the manufacturer, Di-Ren, 59 William Street, Walsall, WS4 2AX, England. You can most probably purchase this interface from Frank Davis of FWD Computing.

Several days after I had received the Di-Ren keyboard interface the Super Hermes interface arrived. Reading through the manual, I was quite surprised that the keyboard interface required LOADing support of a file, IPCEXTS_bin. F1 and F2 from an AT keyboard would function and look for this file in the BOOT, so you must amend your BOOT with either a=RESPR(5200): LBYTES flp1_IPCEXTS_bin,a: CALL a or if you have TK2, just LRESPR flp1_IPCEXTS_bin. I added the loading code to my BOOT, ran it, and the keyboard was operable.

I really have not had the chance to get into the 'GUTS' of Super Hermes as of this time as I am reviewing the latest version of Disk Mate 5 for IQLR. The program operates under the Pointer Environment and I have little experience using the PE with the exception of QRAM. Bob Dyl didn't provide much time for me to complete the assignment by December 10th '95. However, it is a most interesting disk utility program and the manual is better than most software manuals for the QL.

Last month I had discussed making connectors for a mechanical keyboard. I remember one day I had thoughts about making another mechanical keyboard. I chose to use my last reed switch keyboard for the project and then a thought had occurred that just maybe I could use the original QL keyboard keys for this project. This could save me lots of work! The metal plate on the bottom of the QL keyboard was removed, as was the keyboard membrane and it was then that I realized that each key bottom was secured with pressed on snap rings. After a while all of the rings were removed and the key tops were loose. The QL keyboard was placed on top of the mechanical keyboard and all of the QL keys matched the reed switch key posts. There would be six more reed switches added to this arrangement. Where the TAB key was situated on the QL keyboard, there wasn't a reed switch to match, so I drilled several holes in the reed switch pc board, installed a reed switch and epoxyed two small pads of copper for the reed switch to be soldered onto. After the epoxy cured, two #65 holes were drilled into the copper pads and the reed switch was soldered to the pads.

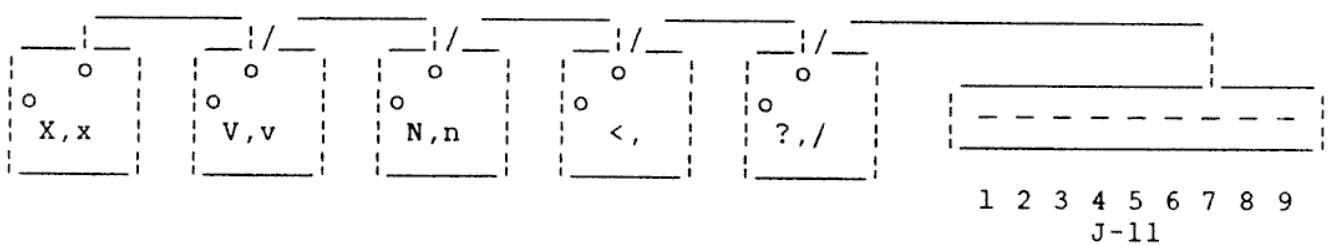
The remaining 5 keys which required placement were secured to a small PC board I made. These keys were the 5 function keys and the PC board was attached to the main keyboard with small brackets. The next thing to be accomplished was to wire up each individual key according to the keyboard matrix, which will appear on the next page of this article.

QL KEYBOARD KEY CONNECTIONS

The following table are connections to the J-11 keyboard connector, pin 7, on the QL Mother board - 9 pin female - columns 1 thru 9.

J-11, 1 - F1, F2, F3, F4, F5, 4, 5, 7	8 keys
J-11, 2 - 2, Q, E, T, 6, U, 8, Ø	8 keys
J-11, 3 - W, TAB, R, Y, I, O, 9 -(minus)	8 keys
J-11, 4 - 3, 1, A, D, H, J, L, P	8 keys
J-11, 5 - CAPSLOCK, S, F, G, K, :, [, =	8 keys
J-11, 6 - Z, C, B, M, >, ",], £	8 keys
J-11, 7 - X, V, N, <, ?	5 keys
J-11, 8 - LFT ARROW, ESC, RT ARROW, SPACE, UP ARROW, DOWN ARROW, ENTER, \	8 keys
J-11, 9 - CTRL, SHIFT (2), ALT	3 keys

To use the above table, connect wires from one key switch terminal to the next key switch terminal until each of the 'J-11' matrix 'column' rows (J-11, 7 for example) are connected together).

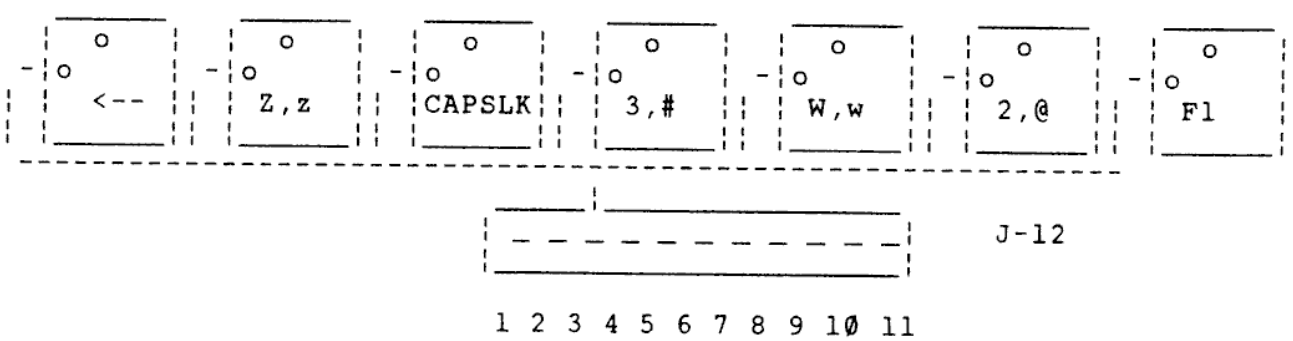


ROW J-11, 7

The following table are connections to the J-12 keyboard connector, pin 3, on the QL Mother board - 11 pin female - rows 1 thru 12.

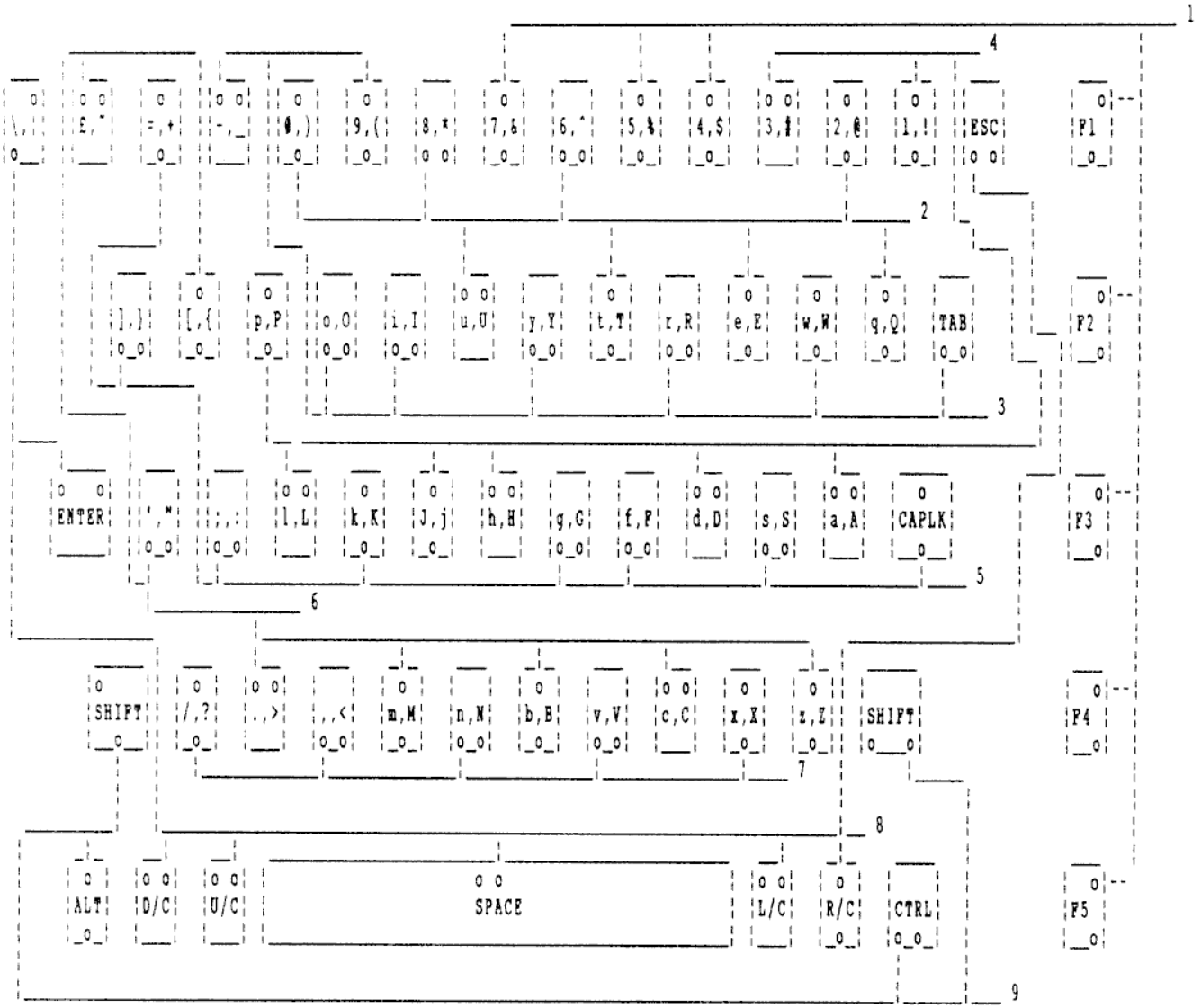
J-12, 1 - CTRL	1 key
J-12, 2 - SHIFT (2)	2 keys
J-12, 3 - RT ARROW, Z, CAPSLOCK, 3, W, 2, F1	7 keys
J-12, 4 - ESC, X, C, S, 1, TAB, Q, F2	8 keys
J-12, 5 - LEFT ARROW, V, B, F, A, R, E, F3	8 keys
J-12, 6 - SPACE, N, M, G, D, Y, T, 4	8 keys
J-12, 7 - UP ARROW, >, K, H, I, 5, 6	7 keys
J-12, 8 - DN ARROW, <, ", :, O, U, 7	8 keys
J-12, 9 - ENTER,], [, L, 8, 9, F4	7 keys
J-12, 1Ø- \, ?, £ , =, P, -, Q, F5	8 keys
J-12, 11- ALT	1 key

To use the above table, connect wires from one key switch terminal to the next key switch terminal until each of the 'J-12' matrix rows, J-12, 3 for example) are connected together).



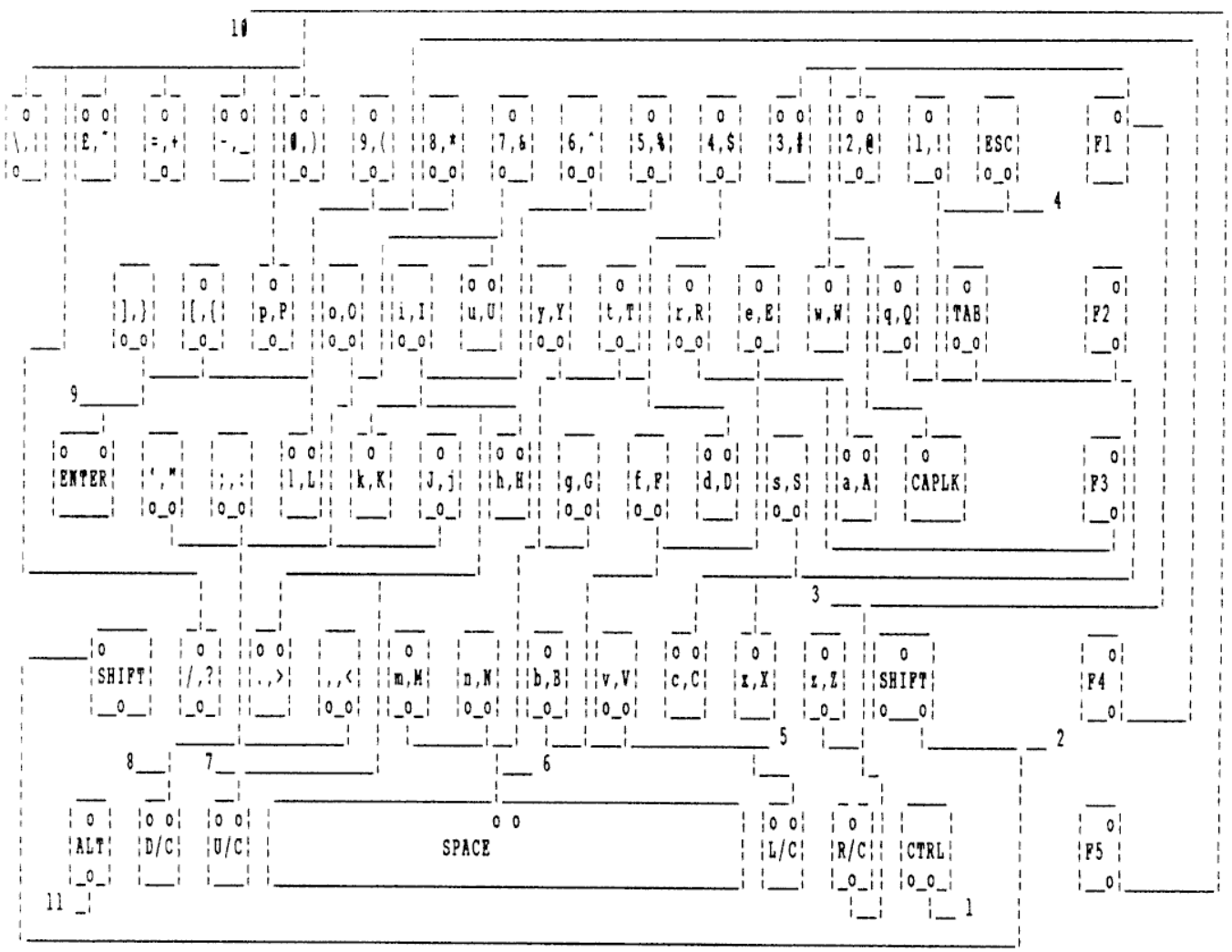
ROW J-12, 3

BOTTOM VIEW OF THE QL KEYBOARD WIRING FOR J-11, 1 THROUGH 9



J-11, 1 - F1, F2, F3, F4, F5, 4, 5, 7 — 8 keys
J-11, 2 - 2, Q, E, T, 6, U, 8, Ø — 8 keys
J-11, 3 - W, TAB, R, Y, I, O, 9 -(minus) — 8 keys
J-11, 4 - 3, 1, A, D, H, J, L, P — 8 keys
J-11, 5 - CAPSLOCK, S, F, G, K, :, [, = — 8 keys
J-11, 6 - Z, C, B, M, >, ",], £ — 8 keys
J-11, 7 - X, V, N, <, ? — 5 keys
J-11, 8 - LFT ARROW, ESC, RT ARROW, SPACE, UP ARROW, DOWN ARROW, ENTER, \ — 8 keys
J-11, 9 - CTRL, SHIFT (2), ALT — 3 keys

BOTTOM VIEW OF THE QL KEYBOARD WIRING FOR J-12, 1 THROUGH 11



J-12, 1 - CTRL	1 key
J-12, 2 - SHIFT (2)	2 keys
J-12, 3 - LEFT ARROW, Z, CAPSLOCK, 3, W, 2, F1	7 keys
J-12, 4 - ESC, X, C, S, 1, TAB, Q, F2	8 keys
J-12, 5 - RT ARROW, V, B, F, A, R, E, F3	8 keys
J-12, 6 - SPACE, N, M, G, D, Y, T, 4	8 keys
J-12, 7 - UP ARROW, >, K, H, I, 5, 6	7 keys
J-12, 8 - DN ARROW, <, ", :, O, U, 7	8 keys
J-12, 9 - ENTER,], [, L, 8, 9, F4	7 keys
J-12, 1Ø- \, ?, £ , =, P, -, Q, F5	8 keys
J-12, 11- ALT	1 key

INTERNET RESOURCE LIST FOR SINCLAIR USERS

I have become more and more convinced that the future of Sinclair computer users lies in them getting to know and use the Internet. Those who have not entered into using a modem with their computer and finding out how to get on the Net are doing themselves a disservice irregardless of the reasons they give themselves for not doing this. There is much in the way of information, programs, tips, graphics files on the net that deal with "our" computers! As more of us go onto the Net, this will increase. And the ease and relative lack of expense to use electronic mail can save you both time and money. So far this is easily done with the QL, and only a little harder for the Z88. To get a TS1000 onto the Net may be possible, but it will need for someone to give it a VT100 Terminal Program and more memory than 64K. The TS2068 also needs a VT100 Terminal Program, but it should not be that difficult to write. Perhaps one exists already for the Spectrum? Anyone know about this? I can help most of you to get the memory you would need for the TS2068 to go online. Check out the last couple of issues of UPDATE for info on the Internet and give it a shot! Meanwhile, here are just some of the places on the Net you can go surfing. I got most of this information off of the Internet by means of email sent to me. See how simple it is to make friends with people who will share information with you? Most of all, disregard all of the garbage in the mainstream media about all of the horrible stuff (like pornography) that they tell you is on the Net. If it is there I do not see how you will find it unless you go looking for it. If you wish to, that is a subject I leave totally up to you as I will not be one of those casting stones at you. The important part of the Net is the information and communication skills it will help you develop, not the minor sticking points.

Editor's Notes

Subject: Sinclair Resources
Date: 31 Mar 1996 13:39:41 -0700
Organization: Computer Science Department, Colorado State University

ftp://uhura.ijs.si/pub/zx
ftp://ftp.dcc.uchile.cl/pub/OS/sinclair
ftp://ftp.nvg.unit.no/pub/sinclair
ftp://virgo.inesc.pt/pub/games
ftp://ftp.itu.edu.tr/pub/systems/spectrum
ftp://ftp.inf.tu-dresden.de/pub/zxspectrum/pub/incoming/zxspectrum
ftp://ftp.gmd.de/if-archive
ftp://ftp.funet.fi/pub/misc/if-archive
ftp://ftp.sun.ac.za/pub/misc/sinclair
ftp://ftp.gui.uva.es/pub/sinclair
ftp://akira.uc3m.es/pub/sinclair
ftp://drson.vse.cz/pub/sinclair
ftp://ftp.polsl.gliwice.pl/pub/systems/ZXSpectrum

ftp://ftp.komkon.com/incoming/Spectrum/pub/Spectrum
ftp://lst.informatik.uni-erlangen.de/incoming/kio /incoming/kio/readme
ftp://ftp.lanprojekt.cz/pub/sinclair
ftp://ftp.vse.cz/pub/386-unix/linux/system/emulators/spectrum
ftp://fly.cc.fer.hr/pub2/spectrum
ftp://maya.dei.unipd.it/pub/sinclair_QL /pub/sinclair_QL/spectrum
ftp://tardis.soc.staffs.ac.uk/pub/sinclair
ftp://wuarchive.wusti.edu/systems/sinclair
ftp://ftp.demon.co.uk/pub/emulators/spectrum

http://www.nvg.unit.no/spectrum/contents-a.html
http://www.comlab.ox.ac.uk/oucl/users/ian.collier/Spectrum/index.html
http://www.soton.ac.uk/~tsp93ma/Coupe/
http://www.maths.nott.ac.uk/personal/cpg/zx81/index_old.html/
http://www.gre.ac.uk/~bm10/zx81.html
http://spodbox.linux.org.uk/~majik/sinclair/
http://relcom.eu.net/zx/
http://www.islandia.is/wooster/
http://www.nvg.unit.no/spectrum/stevo/stevowww/stevowww.htm
http://www.cs.bham.ac.uk/~dmb/speccy/
http://ireland.iol.ie/~sjones/
http://www.hermetica.com/technologia/sinclair/stevo/gamedbs/gamedbs.html
http://www.cs.ucl.ac.uk/students/zcacbb1/spectrum/speccy.html
http://jumper.mcc.ac.uk:80/~simonc/
http://www.il.ft.hse.nl/~ben/sinclair/sinclair.html
http://www.freeflight.com/fms/Z80
http://lia01.unizar.es/curro/spectrum.htm
http://osiris.sund.ac.uk/~ca4aba/snaps.html
http://drson.vse.cz/snapsearch/
http://www.soton.ac.uk/~rjc394/
http://spodbox.linux.org.uk/~blood/
http://sable.ox.ac.uk/~sjoh0132/
http://diana40.paisley.ac.uk/~com40014/index.html
http://paul.rutgers.edu/~savoiu/spectrum/
http://www.gatewest.net/~cpb/lom.html
http://www.ugr.es/~pedrom/sinclair.htm

news://comp.sys.sinclair

gopher://gopher.nvg.unit.no

listserv: lserv@psg.com subscribe sincnews <usercode>@<host.domain>

bbs: Venture +358-0-8092126 [Finland]

ftp://budda.tixm.tambov.ru/d/incoming/crems/speccy
ftp://spodbox.ehche.ac.uk/pub/users/majik
ftp://alba.easynet.co.uk
ftp://ftp.zx-museum.org.ru

Subject: QL FAQ and resources pointer

Sender: news@rz.uni-hildesheim.de (NetNews Manager)
Organization: Universitaet Hildesheim, Germany
Date: Fri, 29 Mar 1996 15:13:57 GMT

Hello Netters,

here is my small list of usefull informations,links and addresses related to the QL.
I intend to post this regularly in comp.sys.sinclair and maus.sys.ql.int

Email any comments, new sites and those I have forgotten to mention,
to rdzidlic@cip.informatik.uni-erlangen.de

****

The QL FAQ is maintained by Robert Klein, it contains lot of information
about history and current developments, available and historic hardware, software,
clubs, magazines and dealers.

Available from:
http://www.uni-mainz.de/~roklein/ql/
http://vzdmzi.zdv.uni-mainz.de/%7Ekleir000/index.html

Older versions are ftpable from maya and garbo, see below
The author can be reached by email as roklein@goofy.zdv.Uni-Mainz.de

Timothy Swenson's www: (QHJ, other ezines, email lists, FreeWare)
http://www.serve.com/swensont/

Peta's QL Support Page, QTPI info and download, info about TFServices,
Jonathan Hudson, Jochen Merz, many links, some software for downloading, Quo Vadis Page:
http://ourworld.compuserve.com/homepages/peta/

QLem Homepage, info and download. QLem is a QL emulator for atari ST/TT
or STonX. STonX is an atari ST emulator for unix/X.
http://rand.thn.htu.se/~johan/

Di-Ren's homepage, product info, e-mail list, links, other QL traders,
QL Magazines info, QUBBESoft news, S.J.P.D overview& full catalog:
http://www.forthrt.com/~di-ren/homepage.html

Thierry Godefroy's home page (french only), list of BBS's:
http://www.imaginet.fr/~godefroy/

Arne's QL Seite (german only):
http://www.hrz.uni-bielefeld.de/hrz/person/runte/QL.html

68000 instruction set summary:
http://www.freeflight.com/fms/comp/CPUs/68000.txt

ftp servers:
ftp.nvg.unit.no:pub/sinclair/ql/ , also mirrors maya
maya.dei.unipd.it:pub/sinclair_QL/
garbo.uwasa.fi

newsgroups:
comp.sys.sinclair
maus.sys.ql.int general discussion
maus.sys.ql.c68-int targets the excellent c68 compiler
maus.sys.ql.ger german only

If you don't have access to the maus.* groups, try to convince your
newsadmin to carry them - servers as far as in Thailand have them so
it should not be a problem for your server.
Alternatively you may try one of the following
newsservers:

news.uni-stuttgart.de
news.rz.uni-hildesheim.de posting allowed !!!, works only with emacs GNUS,
telent or rpent
news.belwue.de
news.ruhr-uni-bochum.de
nntp.darmstadt.gmd.de
nntp.gmd.de
news.uni-marburg.de ????
news.rwth-aachen.de ????
news.cis.nctu.edu.tw

Public newsservers are rare so don't abuse them to get large binary files!!

To use one of the above servers try
setenv NNTPSERVER news.uni-stuttgart.de
and see whether your favorite newsreader supports this (tin may need -r option)
or try something like
telnet news.uni-stuttgart.de 119 #type 'help' after login message
In GNU Emacs/Lemacs/Xemacs type c-u meta-x gnus <enter> ,
now type the newsserver name

Bye
Richard

CABLE COLUMN

By Bill Cable

ARCHIVE SERIES
PART 24 : IS ARCHIVE A RELATIONAL DATABASE?

I began working as a programmer again after a long break. My new working environment is on SUN and SEQUENT computers using the UNIX operating system and the ORACLE relational database. Since I get to work with what is probably the premiere relational database currently available I thought it would be fun to discuss how using a "real" relational database compares with using ARCHIVE.

Obviously ARCHIVE can't work with huge databases like ORACLE can. ARCHIVE has problems with databases with more than 2900 records when ordered on 2 fields. ORACLE can handle databases with 50 million records with no problem. But this difference of scale is not usually important to most QL users because our databases are relatively small. What I want to focus on is the conceptual and functional differences between ARCHIVE and a standard relational database. Are we missing anything?

What is a relational database?
This is not easy to answer. I still have not come across a good succinct description of what a relational database is. Non relational databases are often referred to as "flat file" databases. Some of the promotional material for ARCHIVE refer to it as a multifile relational database. Is it or isn't it? What is this mystical power possessed by relational databases?

Relational databases are based on a precise mathematical model first formulated in 1970 by E.F. Codd at IBM. This was a theoretical mathematical model for organizing data not a real implemented database. By special organization of the data powerful and fast data handling features became available. The fields (columns) and records (rows) could be manipulated and combined with simple commands in ways difficult to achieve in non relational databases. There are many practical problems when trying to turn this model into a real functioning database. Many database systems have attempted to be relational so they could take advantage of the power that would then be available to them. Even today, relational databases still vary in how much they actually conform to this model.

In addition to a theoretical model to strive for there has evolved a common language to interact with this relational model. It is known as SQL (commonly pronounced 'sequel'). You often hear that SQL stands for Structured Query Language but the language was not really a structured language in its original form. Anyway, SQL is a universal standard that is controlled and updated by the American National Standards Institute (ANSI). This means that any serious relational database will conformed to this language standard. A relational database system may have additional features of its own but at least it will support the standard features of the SQL language. SQL is not a procedural language like the ARCHIVE language or SuperBASIC. To solve a problem with a procedural language you write a series of procedures in which each accomplishes a small part of the problem. They use primarily a linear step by step approach to solving the problem. One procedure after another is used and the programmer lays out the order of the sequence. With SQL you simply tell the system what you want and the system decides the best way to get it. You might say it is a very high level language because you don't worry much about the details. This is nice because it has an almost standard English syntax. SQL can do things with just a few simple statements that would take a lot of ARCHIVE code to accomplish. SQL has real smarts about how to quickly get data and even assemble it in different ways because of its relational underpinnings. For example you could take 2 databases (SQL refers to them as tables) and link them together in a view that becomes a kind of virtual database of its own. You can do the same thing within ARCHIVE by writing procedures to keep the data linked together as long as you are in the procedure but SQL does it automatically and can maintain the view permanently.

As usual there is a down side to this power. It is impossible or difficult to do many simple things with SQL. You can't position yourself at one record and then move to the next. SQL works with arrays of data (columns and rows) and not single rows (records). There are no conditional statements such as 'if this do this otherwise do that'. Also there are no looping constructs that we take for granted with procedural languages. Gradually some features that allow for these more procedural tasks are being added to the SQL language. But the traditional way to handle procedural tasks are to mix SQL commands with a traditional language such as C or COBOL. This is called 'embedded' programming because SQL statements are embedded in a C or COBOL program which is precompiled into a file which a standard C or COBOL compiler can accept. As I become more experienced with SQL I find that some things I thought it couldn't do directly can be done. Although the language looks like almost standard English there are subtle features. This is both good and bad. You can make something work but because the language is not structured you can't be sure of the interactions of the syntax without very careful study and experimentation. Perhaps as I gain more experience it will become more intuitive but the language certainly is more complex than it seems at first.

So in one way you can say ARCHIVE is definitely not a relational database system. It doesn't use the standard

language of relational databases. But it is interesting that many of the commands in SQL are almost the same as the ARCHIVE command. There is 'create table' to create a database. Insert, update, and delete are also common to both languages. The select command works very similar. Perhaps at the time ARCHIVE came out it could have been considered a partial relation database. But now it differs quite a bit from standard relational databases.

In order to illustrate some of the differences between ARCHIVE and an SQL database like ORACLE let us create some comparable databases on each system and see how the uses differ. I will give the basic key presses to create the ARCHIVE databases and then give both the ARCHIVE and SQL commands to do similar tasks.

Comparing ARCHIVE and Relational commands

We will create create 2 related databases or tables as they are known in relational terminology. We have already done something like this in parts 19 and 20 of this series. Suppose we sold firewood and wanted to keep the information in our computer. We keep the wood in piles by species and keep track of the amount in cords. We will create a woodpile database to keep track of what is going into and coming out of our piles. We can cut some wood and add it to a pile or sell some wood and remove it from a pile. We will create a type (species) database to define the types of wood we stock. We will sell each species at a different price per cord as the work involved in collecting the wood varies with its abundance and ease of processing. The commands to set up these database within ARCHIVE are given below.

```
create "flp1_woodtype"<ENTER>     {create woodtype}
type_id$<ENTER>
type_desc$<ENTER>
cordcost<ENTER>
<ENTER>                           {end create}

insert<ENTER>                     {insert our woodtype data}
b<ENTER>
beech (american)<ENTER>
70<F5>

m<ENTER>
maple (sugar)<ENTER>
80<F5>

o<ENTER>                          {o for oak not 0}
oak (red)<ENTER>
90<F5>

p<ENTER>
pine (white)
50<F5>

<F4>                              {finished woodtype}

order type_id$,a<ENTER>           {order type_id ascending}

close<ENTER>                      {close database}

create "flp1_woodpile"<ENTER>     {create woodplie}
event_id<ENTER>
who$<ENTER>
desc$<ENTER>
type_id$<ENTER>
quantity<ENTER>
cost<ENTER>
<ENTER>                           {end create}

insert                            {insert our initial stock}
1<ENTER>
me<ENTER>
add wood<ENTER>
b<ENTER>
3<ENTER>
0<ENTER>

2<ENTER>
me<ENTER>
add wood<ENTER>
m<ENTER>
4<ENTER>
0<ENTER>

3<ENTER>
me<ENTER>
add wood<ENTER>
o<ENTER>
3<ENTER>
0<ENTER>

4<ENTER>
me<ENTER>
add wood<ENTER>
p<ENTER>
4<ENTER>
0<ENTER>
```

Also suppose we sold a few cords.

```
5<ENTER>
John Jones<ENTER>
sale<ENTER>
b<ENTER>
-2<ENTER>
140<ENTER>

6<ENTER>
Harry Smith<ENTER>
sale<ENTER>
m<ENTER>
-1<ENTER>
80<ENTER>
```

```
7<ENTER>
Jean Rogers<ENTER>
sale<ENTER>
0<ENTER>
-1<ENTER>
90<ENTER>

8<ENTER>
Andy Wlaker<ENTER>
sale<ENTER>
p<ENTER>
-2<ENTER>
100<ENTER>
<F4>                    {done entering into woodpile}

order event_id;a<ENTER>

close<ENTER>
```

Now we have some data to play with. With ARCHIVE we could look at our sales with a statement like :

```
look 'flp1_woodpile'<ENTER>
select who$<>'me' : display : while not eof() : sprint : next
: endwhile<ENTER>
```

And we could get a total sum with :

```
let sum=0 : first : while not eof() : let sum = cost + sum
: next : endwhile : print sum <ENTER>
```

Except for the select command we approach the data one record at a time. But with SQL we always work with sets and everything comes at once. To see sales type :

```
select * from woodpile where who$ <> 'me';<ENTER>
```

And to sum sales we would type :

```
select sum(cost) from woodpile;<ENTER>
```

Notice that the statements are more simple in SQL and we don't need to use while loops to work through it. It all comes at once. Sum() above is a SQL function. To look at individual records or rows as they are called in SQL, we have to use a select to select one at a time :

```
select * from woodpile where event_id = 1;<ENTER>
select * from woodpile where event_id = 2;<ENTER>
```

But in ARCHIVE we would just :

```
reset<ENTER>
locate event_id = 1 : display<ENTER>
next<ENTER>
```

So it is much easier to browse individual records in ARCHIVE. Suppose we wanted to see how much oak we have in stock :

```
let sum = 0 : reset : select type_id$ = 'o' : while not eof()
: let sum = quantity + sum : next : endwhile
: print sum<ENTER>
```

But with SQL it is much easier :

```
select sum(quantity) from woodpile
where woodtype = 'o';<ENTER>
```

Suppose we wanted to see the 2 files linked together. With ARCHIVE it is fairly complex :

```
close : look 'flp1_woodpile' logical  'w'<ENTER>
look 'flp1_woodtype' logical 't'<ENTER>
first : while not eof('w') : use 't' locate w.type_id$ : use 'w'
: print event_id;tab 5;who$;tab 25;desc$;  tab 40;
t.type_desc$;  tab 50;quantity;tab 60;cost : next
: endwhile<ENTER>
```

It would be easier if we put the above in a procedure but it would still be pretty long. With SQL it is quite easy :

```
select
event_id,who$,desc$,type_desc$,quantity,cost<ENTER>
from woodpile,woodtype<ENTER>
where woodpile.type_id = woodtype.type_id<ENTER>
```

This is just scratching the surface but it may give you a little feel for what a relational database is and how ARCHIVE compares to one. A real flat file is just that, a file with raw data in it. ARCHIVE is more complex than that. The database file holds the data plus information about what kind of data goes in each field (text or numeric) and the file also holds the index information if the field is ordered. Much of the terminology to ARCHIVE is very similar to SQL. And I haven't seen anything yet that you can't do in ARCHIVE as long as you can write procedures to help you out. So ARCHIVE along with its language can perform any tasks you need, relational or otherwise. It might not work fast but it will work. SQL relational databases on the other hand are fast and efficient. That can do array manipulations (row and column) very fast from simple commands. If you need individual record (row) manipulations you may have to resort to using a language like C and embed your SQL statements in them. This can get to be very complex.

In conclusion I would have to say that for most uses on a QL, ARCHIVE is as good as anything I have seen for putting together any kind of database application of small to medium complexity. Of course the newer GUI interfaces might make it easier but I don't even have that in my job. Until next time, Happy ARCHIVING.

SEE YOU AT THE QL SHOW IN BOSTON ON MAY 18

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AMADEUS QL CONTROLLER - *Designed to link the Sinclair QL to the Amadeus system. This device connects to the QL's ROM port thus enabling high speed communications. Comes with a through port allowing other devices using this to continue to function. The price is $70.*

AMADEUS AMA-SOUND - *Record and play back sounds via your computer. This device employs 12 bit sampling and gives the high quality audio of the ADPCM algorithim. Recorded files may be stored, edited and replayed. Includes all hardware and software. Sample data is in 4 bit packages. All data can be transferred between different types of computers. 3 bit sampling may also be employed. The price for this great innovation is $84.*

QL KEYBOARD MEMBRANES - *Replacement membranes for $18.*

QL POWER SUPPLIES - *Get a backup or replacement for $16 while they are still available. These are 110 volt. The supply is limited.*

QMOSAIC Chronicles

by Al Feng

QMOSAIC (Omar Valenti) is billed as a "non-graphical Internet Web Browser." As one of the "_htm" suffixed *(presumably HTML format ... whatever that is!)* files states, **QMOSAIC** found its inspiration from **XMOSAIC**. How true to the original, I cannot say; but, I anticipate added features as the version number moves into the integer phase.

STARTING THE PROGRAM

Okay, so the first trick is to actually LOAD the program.

The first thing I did, however, was to look at the "history_txt" (which was in Italian) and ascertain that there was a short teething period, but that the version I had (0.77) was "pretty good" (or, was that "good enough"?).

I scanned the other files, and the ones that were in Italian did not seem to be instructive. The ones that were in English appeared to be "sample" transmissions.

Later, I spent what seemed to be a couple of hours trying to LOAD the program, and failing at that, I sent Frank a note telling him that I could not LOAD it by any means known to me, concluding only that it was probably compiled with C68 and that the ASCII portion of the program was already translated to English; but, I'd erroneously concluded that the program file had been corrupted due to my initial inability to LOAD it.

In a lucid moment, it occurred to me that the program might run under the all-too-popular-in-Europe POINTER ENVIRONMENT. *Eureka!*

Of course, it was too logical to expect the non-graphical program to run on a non-POINTER ENVIRONMENT. Silly me.

So, to run the **QMOSAIC** program you will need to activate the POINTER ENVIRIONMENT files *(NOT INCLUDED)*, and minimally have a BOOT program that looks like this:

```
100 TK2_EXT
110 lrespr flp1_ptrgen: lrespr flp1_wman: lrespr flp1_hotrext
120 EXEC flp1_qmosaic_flp
```

Of course, there was no "qmosaic_flp" file in the QMOSAIC_zip that I received. The **qmosaic_flp** program is simply the **QMOSAIC** program with the default "win1" converted to "flp1" for my own convenience.

When you run the program, you will find that it is anticipated that the "_htm" files will be found in a default sub_DIRectory named "qmosaic." You can change this.

RUNNING THE PROGRAM

The first thing you will see when you run the program is a "welcome" screen. The screen has a top bar with four "black box" options: two of the options are for sizing and moving the POINTER ENVIRONMENT window, and the other two are for the actual program ("File" and "ESC").

The "ESC" option is redundant; and, you can ESCape from within the "File" option.

The "File" option has the following alternates:

```
Open _html
    Change directory
        Print page
            Links..
                About
                    Exit to SMSQ
```

After you *open* the "File" option, you can either use the pointer or simply press the underlined character.

OPEN HTML

This, at first, seems like a pretty silly option since it defaults to the name of the "_htm" file that is (probably) already *open*. I found that this option allowed me to verify which "_htm" file I was editing. It can also be used to access a file that is not readily available via the "Change directory" option.

CHANGE DIRECTORY

As stated above, the program default is for a sub_DIRectory named "qmosaic." When you first select this option, you will be presented with a small box announcing the "_htm path" and a user re-definable "win1_qmosaic_" default. Either press the ENTER key to accept, or change (of course, if "win1_" is not your default DIRectory, you may want to use the *converted* **qmosaic_flp** version).

Depending on the number of files in the sub_DIRectory, it appears that you will be presented with a ***maximum*** of 18 filenames (3 columns by 6 rows). If you have more than 18 filenames, the 19th and beyond cannot (apparently) be accessed. If the filename does not have an "_htm" suffix, it will not be recognized.

You select the name of the file you want to *open* by moving your pointer until the name is framed, and then press ENTER.

The file will be *opened*, and you will likely see multi-colored, variably sized text. The original files seemed to make **heavy** use of green text (the background is white), and as Peter Hale once remarked to me, this is very difficult to read on a color monitor.

PRINT PAGE

This is a mystery option to me. I can only presume that it means that the "page" (*i.e.*, the *open*/active file viewable on the screen) will be *sent* (!) to your FAX since it did nothing with my printer. But, that doesn't make sense, does it?

Having said that, I want to point out that I found that invoking the various POINTER ENVIRONMENT codes necessitated re-invoking the SMSQ PAR_USE "SER" command, otherwise my printer would not receive any signals from any program. It's a small point, but worth noting.

So, if one of you figures out how to make the PRINT PAGE option work, or what it is really for (?!?), then let the rest of us know.

LINKS

This is apparently the activating part of the hypertext feature of the program. It appears that the program defaults to presenting six other _htm files in the sub_DIRectory.

I'm guessing that it is *also* used for "jumping" to another part of the INTERNET.

If you *open* the "FTP1_htm" and then access the LINKS, you will be given the following options:

http://hoohoo.ncsa.u
http://mtmis1.mis.se
http://rever.nmsu.ed
http://www.compuserv
http://tesuque.cs.sa
http://coyote.csusm.

These are partial addresses (I'm surprised that some are "located" in New Mexico!), and the full address can be seen in the "FTP1_htm" file.

There wasn't any apparent way to scroll the list to access the other 18 options provided "Onion Communications & Technologies" [NB: at this point I should point out that you will find that the ampersand has been changed {by me} to "and" because "&" is apparently a valid script symbol, but an invalid text symbol. Using an ampersand within a text will cause **QMosaic** *(0.77)* to freeze].

Although it appears that you cannot scroll through the LINKS, you can circumvent this limitation by segregating the additional addresses on *different* "_htm" pages.

ABOUT

This is simply a box which states the program name, version number, 'Hypertext for Sinclair QL', and copyright information. It also notes that the program is SMSQ compatible. Its only option is to exit by pressing the red bar ("ok").

EXIT

This is, as you might suggest, the method by which you exit the program.

The option is to exit, or to resume ("No").

DOES IT WORK?

Of course, I am not hooked up to the INTERNET at the current time, so I cannot report as to how well it works; or even, how it functions once you are hooked up. I perceive limiations, but ...

Presumably, once you are ON_LINE (dialed into your provider),

1) you would *simply* run the program
2) access the "File" option
3) access a page similar to the "FTP1_htm" file
4) access the "LINKS" option
5) select a web-sites (?) available via *your* HTML script
6) browse

You cannot pre-maturely exit a file read.

EDITING?

At some point you need a standard text editor. The various codes for the script size and color used are obviously standardized, but I only know what some of them are by having edited the various *Italian* "_htm" files.

It is perhaps little help at the current time to simply state that you should look at the various examples and edit/amend them.

ABOUT THE ENGLISH TRANSLATION

By the time you read this, the *English translation* of the "_htm" files should be available from UPDATE. I presume that original "_htm" files will also be retained on the disk for those who want to read the Italian for themselves.

In that regard, I will note that I have not translated all the text because my knowledge of Italian is really limited to using *The Oxford Paperback Italian Dictionary* [ISBN 0-19-282184-9 (pbk.)].

Some of the words (*e.g.*, "possono") were too obscure, and sometimes I wasn't quite sure what the intent of the author was (as with the comments about QITALY and Jochen Merz).

Apologies for any omissions, and certainly for errors (!), to what the author(s) of the original "_htm" files intended.

HAPPY TRAILS,
AND COMPUTING, TO YOU ...

AMADEUS INTERLINK Low Cost Networking

by Eliad P. Wannum

This is almost like an infomercial, as it is meant to acquaint QL users with some of the products that have come on the QL scene over the last year. These products are available from Di-Ren in the UK and from FWD COMPUTING in North America. Specifications are liable to change without prior notification.

"GENERAL" General System Information

Amadeus Interlink is a Token Ring Local Area Network system designed to link, at low cost, different types of computers and I/O interfaces. It is possible, without fuss, to connect up to 255 interfaces to the system. The interfaces come as a series of modules connected via special leads and connectors. The modules are housed in small, smart black enclosures that measure about 110x60x30 mm.

Interfaces are of two types: Controller interfaces and I/O interfaces. Controller interfaces specifically link computers to the system. At least one Controller must be attached to the system. I/O Interfaces can be anything from Centronics and RS232 serial ports to sound recorders.

"INTERFACES" Interfaces currently available

QL Controllers
Centronics Controllers
Centronics Interfaces
Ama Sound Interfaces

"QL CONTROLLER"- DPR100/1 & DPR100/2

Designed to link Sinclair QL's to the Amadeus system, this device connects to the QL's ROM Port thus facilitating high speed communication. Two versions are available:

DPR100/2, includes a "ROM through port" that enables devices already occupying the ROM Port to continue to function.

DPR100/1, does not include this facility but is cheaper. It is possible to upgrade to a "Through Port" version if required.

The system may be powered directly from the QL. It is STRONGLY recommended however that your QL is fitted with a 2 Amp regulator (especially if Gold Card is fitted and/or Ama-Sound is connected to the system). Suitable regulators with fitting instructions can be obtained FREE OF CHARGE with each QL interface purchase. Alternative power supply arrangements are available in the form of a 3.5 mono socket fitted to the ROM port adapter board where a regulated 5 Volt (+/- 10%) DC power supply should be applied.

QL ROM ports. Some hardware, notably some hard disk drive Controllers, although not physically plugged into the ROM port, 'maps' the address lines used by the port making it unusable by Amadeus (and any other plug-in ROM device). In short, if you can plug a ROM device into the ROM port, and it works, so will Amadeus.

Miracle 40Meg hard disc drive: No problems.

QUBIDE Interface: If it is possible to configure the access address to anything other than 0C000h, Amadeus will work. At last report there was a minor problem in this area.

QL Computer cases

A special QL controller is available (same price) for fitting in cases if required. This requires a clearance height of 12cm above the QL's ROM port. Due to it's design it is not at present possible for the QXL to directly access Amadeus Interlink hardware on PC's.

"CENTRONICS CONTROLLER"

This interface is designed to link computers, running the appropriate software, to the network via their Centronics Port (usually the printer port), thus facilitating high speed communication. The port

requires to be configured to the full Centronics standard as normally found on PC's. A 3.5 mono socket is provided on this interface for the application of a +5 volt (+/- 10%) regulated power supply if required. It should be noted that the network cannot be powered from this interface. Connection to the computer is via a standard 25 Way 'D' type socket.

Network linking software is currently available for PC's. Other machines will follow.

"AMA SOUND"

Records and plays back sound via your computer! This device employs 12 bit sampling and benefits from the high audio quality of the ADPCM algorithm. Ama-Sound employs state-of-the-art technology. The same family of LSI's used in this interface are widely to be found in arcade machines. Recording/Play-back times are subject only to the limits of host computer software. Recorded files may be edited, stored and replayed. They may also be transferred between different machine types. Sample data is supplied in 4 bit packages. Sample speeds range between 4khz - 8khz (*4 bits) and are selectable from software. 3 bit sampling may optionally be selected.

Ama-sound comes complete with speaker, microphone, software and full instructions. Volume and recording level controls are fitted as well as an extra audio input. Both QL and PC software options are available.

"CENTRONICS INTERFACE"

This interface can be configured in software to act in two distinct ways. Firstly, as a fully implemented Centronics printer interface (parallel printer interface), and secondly as a bi-directional net-link type interface. Connection is via a standard 25 way D socket. Lines functional as per Centronics standard:

Strobe	8 * Data Acknowledge	
Busy	Paper out	Ready
Printer error	Reset	Automatic line feed
Printer Select		

Printer option: The on-board micro Controller automatically controls printer output and returns error codes (status lines) as required. Reset, Automatic line feed and Printer Select are easily set in software. As with most other modules, any number of these may be connected to the system and accessed by any linked computer.

Netlink option: Requires the use of a specially configured Lap-Link type cable. 5 input and 5 output lines are catered for. I/O ports may be directly read/altered. Data stream on-board software can also be invoked. This option is completely software controlled and should suit most applications. Supplied complete with QL or PC software as required. Suitable Parallel printer leads: XPR002.

"LINKING" Network linking/Cables

Network linking cables are not supplied with interfaces and should be ordered as required. All interfaces must be connected in a loop, i.e., the output of one interface is connected to the input of the next. It therefore follows that if you have two interfaces, you require two network linking cables, three interfaces require three cables and so on. In most cases the interface modules will be stacked on top of one another. The cables required in these instances will be:

<u>2 stacked units:</u>
2 short leads - DPR400
<u>3 stacked units:</u>
2 short leads - DPR400
1 longer lead - DPR401
<u>4 stacked units:</u>
3 short leads - DPR400
1 longer lead - DPR401

If you do not plan to stack the units on top of one another, order the cable lengths required to connect your system.

Some interfaces require extra cables:

DPR102 Centronics Interface requires: XPR002. This cable connects the 25 way D socket on the interface to the 36 way Centronics connector on the printer.

DPR101 Centronics Controller requires: XPR003. This cable connects the 25 way D type socket on the interface to the 25 way D type socket usually found on PC's.

The maximum recommended network cable length is 10 metres (30 ft). Longer runs under optimum conditions is possible.

Where the distance between interfaces is between 10-50 metres, low cost line drivers must be fitted at both ends of the cable. Line drivers are available in 3 types, RX (transmit) only, TX (receive) only and dual RX/TX options.

Dual RX/TX (TRX) line drivers are useful where cables to and from remote locations run parallel. Single line drivers are used where cables do not run parallel.

Cable connections to line drivers are via screw terminals thus allowing flexible installation. Full instructions are provided.

Line driver PCB's are not supplied in housings. Suitable plastic ABS boxes are available separately if required. Single and dual wall sockets and socket mounting boxes are available for permanent cable installations.

The cable used on this system is very much cheaper than conventional networking cable. As a result, maximum cable run lengths are restricted. It is anticipated however that the 50 metre maximum with line drivers will satisfy most applications. If you require shielded cable, expect to operate the system in an exceptionally electrically noisy environment or wish to install cable runs exceeding 50 metres, contact us for further assistance.

Ordering Example 1 - You wish to connect Ama-Sound to your QL.
Requirements:
1 QL Controller - DPR100 + QL software
1 Ama-Sound Interface - DPR115 + QL software
2 short network leads - DPR400

At a later date you wish to add a Centronics (printer) interface.
Extra requirements:
1 Centronics Interface- DPR101 + QL software
1 4 Unit Network link lead - DPR401
1 Printer cable - XPR002

Ordering Example 2 - You only wish to connect a Centronics Interface to your QL for the purposes of controlling a printer.
Requirements:
1 QL interface - DPR100 + QL software
1 Centronics interface - DPR101
2 short network leads - DPR400
1 printer cable - XPR002

Ordering Example 3 - You wish to connect your PC, QL and two Centronics printer interfaces, and implement communication between the QL and PC.
Requirements:
1 QL Controller - DPR100 + QL software
2 Centronics Interfaces - DPR101 + PC & QL Software
1 Centronics Controller - DPR102 + QL software
3 short link leads - DPR400
1 4 Unit link lead - DPR401
1 printer cable - XPR002

1 Centronics Connecting cable - XPR003

Network cable ordering

Standard cable lengths with plugs fitted at both ends for immediate connection to interfaces are used for most applications. DPR400-DPR403 cover lead lengths up to 1 metre.

For cable lengths over 1 metre, where connection is between interfaces and/or wall sockets (not through line drivers), specify length required and that plugs require fitting at both ends of the cable (order code DPR404).

If a cable is to be directly connected between an interface and line driver (remember line drivers have screw terminal connections), specify the length required and that a plug should be fitted to one end of the cable (order code DPR404).

Cables connected between line drivers do not require plugs as connection at both ends is via screw terminals (order code XPR005).

Wall sockets are fitted with screw terminal connections on the inside and standard FCC 8C8P connectors on the outside (same as interfaces).

An all purpose specialised tool (order code XPR009) that strips, cuts and fits 8C8P plugs to cables is available if you wish to make up your own cables.

"SYSTEM" System Specifications & Power supplies

Network Type	Token Ring - Continuous loop
Token Cycle	2us per interface approx.
Net throughput rate	Approx. 2.5Mbps - no degradation
Network Control	Micro controller - 20 MHz (5Mips)
Cabling	Flat IPC 8 core
Max. cable length	Approx. 10 metres without line drivers Approx. 50 metres with line drivers
Plugs	Modular FCC68 8C8P
Power requirement	Regulated 5 Volts DC +/- 10%
Minimum Voltage	4.5 Volts
Max. network power load	1 Amp
System usage rating	Continuous
RFI	Not shielded

System Power Supplies

The system must be provided with a +5 volt (+/- 10%) regulated DC power supply. Controller interfaces are fitted with 3.5 mono sockets suitable for power application as are TRX and TX line drivers. The QL is capable of providing suitable power. We are soon to introduce suitable PSU's. If in the meantime you are unable to acquire a suitable PSU locally, contact us for help.

"SOFTWARE GENERAL" System Software - General Software

All interfaces and controllers are supplied with suitable software. System Software supplied with Controller interfaces links the computer to the system and provides drivers to communicate with other Controllers. These drivers do not however provide file-server type access.

One piece of system software is supplied with each interface. In some cases, there may be more than one software option available for a particular interface. Take for instance Ama-Sound. Software for both PC's and QL's is currently available for this interface, hence, you must specify whether you require the PC or QL version. If you have PC's and QL's linked to the system and wish to access Ama-Sound from both machines, obviously you will require both PC and QL software. This will mean purchasing the other machine specific version.

These are all products that can extend the usefulness of your QL computer and show that there is still work being done to advance their use. Contact FWD COMPUTING or DI-REN for further information and to place orders. FWD COMPUTING was formerly known as Mechanical Affinity.

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BZ80 BASIC PROGRAM FILTER FOR THE Z88

Have fun with this short BBCBASIC program for your Z88.

```
.J
NEW
 10 *NAME BASICFLT
 20 CLS
 30 PRINT CHR$(1);"BZ80 BASIC Program Filter";CHR$(1);"B"
 40 PRINT
 50 INPUT "Input filename",I$
 60 INPUT "Output filename",O$
 70 I=OPENIN(I$)
 80 O=OPENOUT(O$)
 90 IF I=0 OR O=0 THEN PRINT "File error!":END
 95 PRINT:N1=0:N2=0
100 PL=N1+256*N2:L=BGET#I:N1=BGET#I:N2=BGET#I
105 PRINT "Line ";N2*256+N1;", length ";L;
107 IF N1=10 OR N2=10 THEN GOSUB 500
108 IF L=10 GOSUB 250
110 BPUT#O,L:BPUT#O,N1:BPUT#O,N2
115 PRINT
120 IF L=0 THEN CLOSE#I:CLOSE#O:PRINT "Completed!!":END
125 L=L-3
130 B=BGET#I
135 L=L-1
140 IF B<>10 AND B<>13 THEN BPUT#O,B:GOTO 130
150 BPUT#O,13
155 IF L<>0 THEN PRINT "WARNING: Line length error!!":K=GET
160 GOTO 100
200 INPUT " - new line (or ENTER)",LX;
210 IF LX=0 THEN GOTO 240
220 N2=INT(LX/256)
230 N1=LX-256*N2
240 RETURN
250 LP=PTR#I:LL=7
260 B=BGET#I
265 LL=LL-1
270 IF B<>10 AND B<>13 THEN GOTO 260
280 IF LL<>0 THEN L=13:PRINT " - corrected to length 13";
290 PTR#I=LP
300 RETURN
500 IF N1=10 AND N2=10 THEN GOTO 200
510 IF (N1+N2*256)>PL THEN GOTO 200
520 IF N1=10 THEN N1=13
530 IF N2=10 THEN N2=13
540 PRINT " - corrected to line ";N1+256*N2;
550 RETURN
```

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QHJ Freeware

What: QHJ Freeware is a freeware/sharware distribution service for North American QL Users. It is not designed to compete with European Freeware Distributors.

Why: It has recently dawned on me that there are no freeware distributers in North America. Due to currency exchanges, buying freeware from Europe can be a daunting and costly affair.

How: All Freeware packages are available as ZIP files. Check the list of files available, add up the total bytes, determine how many disks it would take, send the disks plus return postage. Return postage should be the same to send the disks to me.

To get the list of files available, send an SASE, an e-mail, or check my web pages. Addresses for all this are:

Timothy Swenson, 5615 Botkins Rd.
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Appendix B - Z88 Character Set

Hex	Decimal	Code	Description
&20	32		Space
&21	33	!	
&22	34	"	
&23	35	#	
&24	36	$	
&25	37	%	
&26	38	&	
&27	39	'	
&28	40	(	
&29	41	)	
&2A	42	*	
&2B	43	+	
&2C	44	,	
&2D	45	-	
&2E	46	.	
&2F	47	/	
&30	48	0	
&31	49	1	
&32	50	2	
&33	51	3	
&34	52	4	
&35	53	5	
&36	54	6	
&37	55	7	
&38	56	8	
&39	57	9	
&3A	58	:	
&3B	59	;	
&3C	60	<	
&3D	61	=	
&3E	62	>	
&3F	63	?	
&40	64	@	
&41	65	A	
&42	66	B	
&43	67	C	
&44	68	D	
&45	69	E	
&46	70	F	
&47	71	G	
&48	72	H	
&49	73	I	
&4A	74	J	
&4B	75	K	
&4C	76	L	
&4D	77	M	
&4E	78	N	
&4F	79	O	
&50	80	P	
&51	81	Q	
&52	82	R	

&53	83	S	
&54	84	T	
&55	85	U	
&56	86	V	
&57	87	W	
&58	88	X	
&59	89	Y	
&5A	90	Z	
&5B	91	[	
&5C	92	\	
&5D	93	]	
&5E	94	^	
&5F	95	_	
&60	96	<>	
&61	97	a	
&62	98	b	
&63	99	c	
&64	100	d	
&65	101	e	
&66	102	f	
&67	103	g	
&68	104	h	
&69	105	i	
&6A	106	j	
&6B	107	k	
&6C	108	l	
&6D	109	m	
&6E	110	n	
&6F	111	o	
&70	112	p	
&71	113	q	
&72	114	r	
&73	115	s	
&74	116	t	
&75	117	u	
&76	118	v	
&77	119	w	
&78	120	x	
&79	121	y	
&7A	122	z	
&7B	123	{	
&7C	124	|	
&7D	125	}	
&7E	126	~	
&7F	127	DEL	Delete
&A0	160	<>SPACE	Exact Space
&A3	163	£	Pound

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Using PipeDream to Write Basic Programs

Many people have asked how to use PipeDream to write BBC Basic programs. Basic has little ability to easily edit a program, while PipeDream is crammed with editing power.

The easiest way is to begin writing your Basic program in PipeDream as if it were a document. Place the two characters "#B" on the first line, the two characters ".J" on the second line, and start typing your program beginning on the third line.

When you are ready to run the program, save the program as text using "◇FS". Make sure you change the bottom NO to a YES, or the file will not be saved as text. Then, type "□F◇EX" followed by the same name you just used to save the program in PipeDream. This will load it into Basic. From this point on, remember to always go back to PipeDream to make changes.

If you have a program you wrote using BBC Basic, then you must copy it over to PipeDream. This is done by listing the program in a special way in Basic. In Basic, list the program by typing "LIST□+S" and pressing Enter. After it is listed, type "□-S". This saves the program as text in the file ":ram.-/s.sgn".

To retrieve the program in PipeDream, load the file ":ram.-/s.sgn" as text (make sure the bottom NO is changed to YES.) Once in PipeDream, the last line of the file will be added garbage, so remove it. The first line will be blank. Insert another blank line at the top of the file by going to row one and typing "◇N".

On these two blank lines place the "#B" and ".J" as described above and you are ready to use PipeDream to edit your Basic program. Z88

73 is NOT the Limit!

Several users have called to ask how they can write 80 column documents and see them on the Z88 screen. They understand that they can print very wide documents, but the Z88 is advertised as an 80 column screen, so why can't they see an 80 column document!

You got us! The ads are wrong. The Z88 doesn't have an 80 position wide screen. It's only 94 positions wide! (So, we understate the machine-- nobody's perfect.)

The 94 columns are always available in Basic or other applications. They aren't all available in PipeDream for two reasons. The first is unavoidable. Pipedream reserves 7 positions to the left for the line numbers. Thus, the maximum possible line width is 87 (94-7).

To get an 87 position line you need to do three things. First, turn the page map on the right off by going to the panel (□S) and setting the MAP field to NO. Then go back to PipeDream by pressing ESC.

Next, widen the document by adding two spreadsheet columns. Type ◇EAC◇EAC to add the two columns. Finally, move over the right margin 14 positions (from 73 to 87) by pressing the following two keys 14 times: □→

If you want to see *merely* 80 columns, then don't widen the screen the full 14 new positions. And we are sorry, but no, it is not possible to see more than the first 87 columns of a wider document-- but then, you can't do that on most desk top computers either. And it is certainly better than the 40 columns, or less, displayed on some "toy" computers. So we don't really feel so bad! Z88

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Printer Output from BBC Basic

Printing output on the printer in BBC Basic is almost as easy as printing on the screen. It is also as powerful as printing from PipeDream. You have full control of bold, italics, underlining and any other special printing options you may have set up using the Printer Editor described in Appendix E of your Z88 manual.

The listing shows a program that prints on the printer. Line 40 opens an output file to the printer device and assigns its channel number to the variable P. Every statement that sends information to the printer must specify this channel number.

Two kinds of information can be sent to the printer using PRINT statements: control information, and output.

Control Information

Control information is sent out using the form **CHR$(n)+CHR$(m)**, where **n** and **m** are numbers.

End-of-line information is one example of control information. This is shown on lines 130 and 220 and is of the form **CHR$(13)+CHR$(10)**. Other control information is used to start and stop the printer or change format.

Printing will not work properly unless the printer is started before anything is sent to it and stopped after all printing is complete. This is shown in lines 70 and 280 of the listing.

All the printing formats available from PipeDream or defined with PrinterEd are also available. The sample program shows the use of BOLD printing. Bold is turned on at line 150 and switched back off again at line 240. Each format is turned on and of with the same number pairs. Here are the number pairs for each of the formatting options available:

Printer On:	5,91
Printer off:	5,93
Underline:	5,85
Bold:	5,66
Extended seq:	5,88
Italics:	5,73
Subscript:	5,76
Superscript:	5,83
Alternate font:	5,65

There are a few kinds of control information that use a single number. These are specified as **CHR$(n)**, where the number **n** is:

Form feed:	12
Bell:	7
Horizontal tab:	9
Vertical tab:	11

```
 10 REM This program demonstrates printer output from BBC Basic
 20 :
 30 REM Open the printer output file
 40 P=OPENOUT ":PRT.0"
 50 :
 60 REM Turn on printer output (REQUIRED)
 70 PRINT#P,CHR$(5)+CHR$(91)
 80 :
 90 REM Output a message
100 PRINT#P,"This is text"
110 :
120 REM output a carriage return
130 PRINT#P,CHR$(13)+CHR$(10)
140 :
150 REM Switch to BOLD
160 PRINT#P,CHR$(5)+CHR$(66)
170 :
180 REM Output a number in BOLD
190 PRINT#P,"The answer is "+STR$(3*3.14159)
200 :
210 REM Output another carriage return
220 PRINT#P,CHR$(13)+CHR$(10)
230 :
240 REM Turn off bold
250 PRINT#P,CHR$(5)+CHR$(66)
260 :
270 REM Quit printing
280 PRINT#P,CHR$(5)+CHR$(93)
```

Output

The output data is what you are trying to print. It must always be text. Use the Basic function **STR$()** to convert any numeric values or formula answers to text before printing them. An example of this is show on line 190.

Also remember that unlike the normal print command to the screen, you can only have one text expression in the print statement. Connect multiple text expressions with a "+". Also, you have to use control information described above to force an end-of-line.

If you are a Basic programmer, you now have all the information you need to print sophisticated output reports from your Z88 using BBC Basic. Z88

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